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SPECIAL REPORT

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Will EXI Take XML Everywhere?

BY DAVID WORTHINGTON

The World Wide Web Consortium (W3C) is working on a solution to bandwidth-hogging, clunky XML.

In that battle of bandwidth, binary beats text any time—and that's the purpose of Efficient XML Interchange (EXI), an emerging specification under development by the W3C. EXI is a binary syntax for XML based upon the conclusions of the W3C XML Binary Characterization Working Group.

EXI makes more judicious use of bandwidth and hardware, and it fulfills W3C's objective to produce a standard binary



EXI makes Web services data smaller and faster to process than plain text XML, says spec editor Schneider.

XML that integrates with plain text XML.

According to John Schneider, co-editor of the EXI working draft, the main objective of EXI is to expand the use of XML where it was not the best

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Oracle Bids for BEA

US\$6.7 billion offer seen as staying ahead of SAP; JVM could be 'key differentiator'

BY DAVID WORTHINGTON

The world's No. 3 software maker may be getting bigger. On the heels of SAP's announcement that it was acquiring Business Objects, Oracle made a bid for BEA Systems. Oracle's attempt to consolidate more of the industry under its roof led

some analysts to say that it was in effect attempting to catch up with IBM's middleware offerings and counter SAP's acquisition.

In an October letter to BEA's board of directors, Oracle offered US\$17 per share for BEA, which has experienced persistent revenue shortfalls for its software sales. On Oct. 12, Oracle confirmed rumors that it had made an unsolicited offer to acquire

BEA. However, there was no official answer from BEA; as of press time, BEA remains independent, having left Oracle's initial \$6.7 billion cash acquisition tender offer on the table.

Oracle's proposal was approximately 25 percent above BEA's one-year average of US\$13.62 on Oct. 11. As a consequence, BEA's stock immediately jumped to \$18 and above on Oct. 12.

A UBS Investment Research report, written by analysts Heather Bellini, Jon Stuart and Perry Huang, concluded that it was a very attractive deal for Oracle. The UBS report identified BEA's crown jewels as being its maintenance base on one hand, which UBS forecasts at

\$766 million in 2007, and BEA's Java Virtual Machine (JVM) technology on the other. "The JVM could be a key differentiator for Oracle as they seek to capitalize on the virtualization trend," the analysts wrote.

"We have made a serious proposal including a substantial premium for BEA," said Oracle president Charles Phillips in a statement prepared for the press. "We believe our all-cash offer provides the best value for BEA's shareholders and the best home for BEA's employees and customers. This proposal is the culmination of repeated conversations with BEA's management over the last several years. We look forward to completing a

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Microsoft Lifts the Covers on .NET

Visual Studio 2008's debugger will download .NET library source code

BY DAVID WORTHINGTON

Visual Studio 2008 is going to allow developers to debug .NET application code at a much more granular level than the IDE has ever permitted. Microsoft has opened the black box of the Microsoft .NET Framework libraries to provide developers with visibility into the inner workings of .NET.

In the late 1980s, developers could request the source code to the Microsoft C Libraries, and

code jockeys in the following decade could get source code to the Microsoft Foundation Classes for C++. But that has not been the case for .NET, until now, almost five years after it hit the market.

The libraries' source code will be licensed under the Shared Source "read-only" Reference License. The code itself will be offered up in a piecemeal fashion beginning with the .NET Base Class Libraries, ADO.NET, ASP.NET, Windows Forms,

Windows Presentation Foundation and XML. More libraries will follow, including Language Integrated Query, Windows Communication Framework and Windows Workflow Foundation.

In his blog on Oct. 3, Scott Guthrie, general manager of Microsoft's developer division, illustrated how the debugger will dynamically download the .NET Framework debugging symbols from a Web server hosted by Microsoft.

Debugging symbols tell the debugger where to locate the original source files for a binary and download the corresponding source code. The .NET Framework symbols can be configured to either retrieve it all at once, or on demand.

Debugging symbols can help developers learn more about the binary, such as the name of its variables and routines.

It's look, but do not touch: Developers may not copy, modi-

fy, recompile or redistribute the code, according to the license. Dino Chiesa, director of the .NET platform, explained that allowing outsiders to rework the source code would produce an unwanted effect, undermining the dependability and reliability of the platform.

The Reference License is one of the few Shared Source licenses that Microsoft did not submit in July to the Open Source Initiative for its review and approval as a qualified open source license. Chiesa explained that Microsoft chose the Reference License for the libraries because it was the best license to fit the

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A Legal Primer For
Free, Open Software

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Lively Kernel Comes Alive With Smalltalk Echoes

JavaScript project shows off a possible future for Web browsers

BY ALEX HANDY

One of Sun Microsystems' newly announced research projects brings back memories of Xerox for one industry veteran. Sun in early October unveiled an early-stage research project known as the Lively Kernel, a JavaScript-based operating environment that allows for user interactions resembling those outlined by Alan Kay and others in the 1970s. With heavy Smalltalk influences and a hearty helping of the GPL, this open source project is now available for experimentation.

Kay, one of the originators of object-oriented programming and of the graphical user interface, was on hand at the demonstration to support friend and colleague Dan Ingalls, the lead on Sun's Lively Kernel project. Kay commented that the demonstration resembled some of the things he'd created and demoed at the fabled Xerox PARC research facility some 30 years ago. The key difference here, however, is that all of the demonstrations took place inside a Web browser. Ingalls demonstrated the capabilities of the Lively Kernel to a crowd that included other members of the Smalltalk community.

The project began as an attempt to build a virtual machine inside JavaScript, but evolved into an entirely new platform for building Web applications. "What we've done is to take the things that are given to you in a browser



Sun's Lively Kernel exhibits the sort of operating system features that originally made Xerox PARC famous. This time around, however, the code runs in a browser and is open source.

and bring them alive in the way I've always wanted systems to be alive," said Ingalls. The Lively Kernel is so flexible that editing its underpinnings can be done while it runs. The kernel can also spawn new copies of itself, and is recursive in the sense that a panel used to modify window styles can be modified by another instance of itself.

During the demonstration, Ingalls showed off the underlying scalable vector graphics engine of the Lively Kernel. Objects and windows created inside the kernel can be rotated, animated, enlarged and shrunk on the fly. One demonstration showed an animated clock face—Ingalls modified the clock code within the Lively Kernel, and the

second hand began to tick backward as soon as the change was saved. Ingalls then attached a rotating polygon to the second hand, and the two objects became a single object encompassing the inherited properties of both. All of this can be done, explained Ingalls, due to the nature of dynamic languages such as JavaScript.

The Lively Kernel is now an open source project licensed under the GPLv2; Ingalls expressed his hopes that, despite the preliminary nature of his work, the world at large would pick up this JavaScript football and run with it. At around 300KB, the Lively Kernel is designed for embedding in Web pages as a building platform. Widgets and applications built in the Lively Kernel can be exported to run in other Lively Kernel implementations, or can be clustered together on separate Web pages, in much the same way that some operating systems offer multiple dynamically switchable desktop spaces.

The Lively Kernel is available to play with at research.sun.com/projects/lively/index.html and at this time works well only in the preview releases of the Firefox 3 and the Safari 3 Web browsers. Ingalls said that he is anxious to see how the open source community uses and modifies the Lively Kernel; he and his team have many ideas for how it may be used, but they're not entirely certain which ones will drive adoption. ■

Analysts: SAP's Latest Buy May Be Sticky

Channel agreements, product overlaps could complicate merger

BY ALEX HANDY

Oct. 7 was a busy day for two of Europe's largest software companies. On that day, SAP announced it would acquire Business Objects for €4.8 billion, roughly US\$6.8 billion. Despite the disparate markets that each company addresses, there will still be some overlap within the application portfolio of the newly enlarged company.

However, Business Objects' CEO said that his company will remain a separate business unit that will continue to offer standalone products.

Henning Kagermann, CEO of SAP, said, "The acquisition of Business Objects is in keeping with SAP's stated strategy to double our addressable market by 2010 as announced in 2005." Though that goal of reaching 100,000 customers should be bolstered by around 27,000 Business Objects customers, Kagermann was also quick to caution that this acquisition will hurt the company's bottom line well into 2009.

For now, SAP's focus will be on finishing this acquisition by the end of the first quarter of 2008. Business Objects CEO John Schwarz will remain in his current position and will take a seat on the SAP executive board. Schwarz said that 40 percent of Business Objects customers are also SAP customers, and that the synergies therein will help to propel the merger to profitability by 2010.

Before the deal, both companies had been acquiring business intelligence products. SAP earlier this year acquired Outlooksoft and Pilot Software, both makers of business strategy and planning software. Business Objects acquired Cartesis and Inxight earlier this year, and Paul Hammerman, vice president of enterprise platforms at Forrester Research, expressed his concerns over the apparent overlap between these and other merged products now under the SAP umbrella.

"I'm not all that enamored with the

deal," said Hammerman. "I think it's a very complicated deal for SAP. They've never made an acquisition this size, and it will take them a while to assimilate it. I see significant overlaps in product set and partner channels. It will take them a while to sort these out and produce coherent road maps, particularly around business performance solutions, strategy management and performance analysis."

Hammerman characterized the merger as an admission by SAP that its own business intelligence tools weren't really cutting it. "They had to provide some better tools," said Hammerman. "SAP had planning and budgeting tools, but they weren't selling very well. A lot of [SAP] customers are choosing third-party products."

But the internal product decisions may take a backseat to another potential problem spot, argued Hammerman: "The partnering relationships and potential channel conflicts. [SAP said it will] preserve reselling channels, yet there's a number of

complicated relationships in place." He added, "SAP has a longstanding relationship with Cognos, a maker of business intelligence applications. They compete directly with Business Objects."

STRANGE BEDFELLOWS

But Cognos could be the least of SAP's problems. Business Objects' 2002 acquisition of Acta Technologies resulted in an injunction from Informatica, a company with many existing ties to SAP. With Oracle also staying close to Business Objects over the years, SAP now has many strange bedfellows.

Amidst this business key party, Boris Evelson, principal analyst at Forrester, suggested that now may be a good time to renew your Business Objects licenses.

"I say take quick advantage of uncertainties in the product road map," wrote Evelson. "Lock down maintenance contracts and sweetheart deals while you can to get a good deal from [Business Objects] before SAP really takes over."

Representatives of both Business Objects and SAP declined to comment on future road maps and partnerships, and stated that it is too early to indicate which products may be culled. ■

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THE MASHUPS ARE COMING

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Legal Primer for Free and Open Software

SFLC holds first-ever summit, releases book on copyrights, patents, globalization

BY DAVID RUBINSTEIN

NEW YORK — The question of whether software should be patentable was one of several issues tackled in mid-October at the first Legal Summit for Software Freedom, sponsored by the Software Freedom Law Center at the Columbia Law School here.

The meeting brought together developers, lawyers and open source software advocates. "We need to include all in our community," said Daniel Ravicher, SFLC legal director. "Our goal is to have people leave with an understanding of what software freedom is," he added. To that end, the SFLC has put up on its Web site a primer for organizations that use open source software, discussing the problems they could face.

Richard Fontana, SFLC counsel, argued that despite the patentability of software being seen as a settled issue, the open source community has kept the debate alive. "Opposition to patents is universally held in this community," Fontana said.

Fontana spoke of the "mental steps doctrine," which holds that if software involves human



Attorney James Vasile discusses the merits of centralized copyright management at the SFLC summit.

decision-making, or simply computerizes that process, the software is not patentable. Early computer programs were seen as such, but he claimed a concern has grown in the community over patent officers who lack the technical skills to make decisions about what is unique and different, and too freely grant patents.

However, Fontana did note that there are ironic similarities between the patent camp and the free software groups: Both believe that patents help avoid

duplication of effort because of required disclosures, and both share the view that patents encourage innovation.

As to the proliferation of patents, he said there should be an idea of obviousness. "If it's obvious to a person of ordinary skill and art, it shouldn't be patented. The [U.S. Patent and Trademark Office] issues patents that cover old technology."

But patents shouldn't be confused with copyrights, he said. Patents cover ideas and inventions; copyrights cover the

implementation of those ideas. James Vasile, another SFLC attorney, discussed the importance of tackling copyright issues early in an open source software project. "Managing copyrights as they come in and go out can make the difference between a project that's commercially viable or not, or whether the adoption of a project grows," Vasile said.

It is important for the project lead to centralize copyrights, Vasile said. This makes it easier to enforce the copyrights



Photos courtesy of Columbia Law School

SFLC legal director Daniel Ravicher says EULAs that prevent reverse engineering would be hypocritical in the open source community.

because the ownership is clear. When any developer contributes code to the project, the project lead should require a copyright assignment at that time. Information such as who the developer works for, what he does, what country he is in, and if he used his employer's resources to write the code, all can help with understanding whether the code might be encumbered.

"If someone asks where the code in your codebase came from, you want to be able to say with assurance that you have that information. A hazy memory won't be sufficient," he said.

On the issue of reverse engineering and end-user license agreements that ban it, Ravicher said it would be hypocritical for an open source project to use a EULA to prevent the practice.

Eben Moglen, founder of the SFLC, wrapped up the summit by discussing how software patent lawyers face challenges brought on by the internationalization of the industry. "By nature, lawyers are localists. They are licensed to practice in a state. But [open source] projects are subject to law in multiple jurisdictions," Moglen said. Software patent lawyers, he said, need to be "longitudinal specialists in law related to free software. Our expertise is industrially organized, rather than geographically organized." ■

Qualcomm Faces Anticompetitive Allegations

The European Commission will investigate its licensing practices

BY DAVID WORTHINGTON

Sometimes, the wheels of justice grind exceedingly slow. Qualcomm may get its day in court to address concerns that its licensing terms and conditions are unfair, with overly high royalties. But it is anyone's guess exactly when that will be.

In early October, the European Commission initiated formal proceedings against chipmaker Qualcomm, stemming from complaints filed two years ago alleging that the company's licensing terms and conditions are anticompetitive. The "priority status" investigation is expected to take months, if not years, to produce results.

A cadre of mobile phone and chipset vendors—Broadcom, Ericsson, Nokia, NEC, Panasonic and Texas Instruments—claim that Qualcomm's licens-

ing terms for Wideband Code Division Multiple Access (W-CDMA) technology, a standard component of 3G wireless devices, violate EU law and Qualcomm's commitments to international standards bodies.

Nokia and Qualcomm have bickered over royalty fees since a licensing agreement expired in April.

Qualcomm president Steven Altman said he was pleased that the Commission had given the case priority status to "move it forward swiftly to resolution." He added that the company would continue discussions with the regulators, and prove its assertions that the complaints are without merit, and motivated by commercial considerations.

Altman turned the allegations on their head, alleging

that the rival vendors sought to stifle competition. Qualcomm maintains that its business model, based on licensing its intellectual property, has opened W-CDMA to new players, driving competition and innovation and benefiting consumers.

The classic definition of a monopoly is a single company that owns all or nearly all of the market for a given type of product or service. Article 82 of the Treaty of Rome, the treaty that established the European Union, was drafted to prevent firms that hold a dominant position in a market from abusing that position.

The article stipulates that an abuse could be interpreted as either directly or indirectly imposing unfair selling prices or other unfair conditions. The Commission must decide

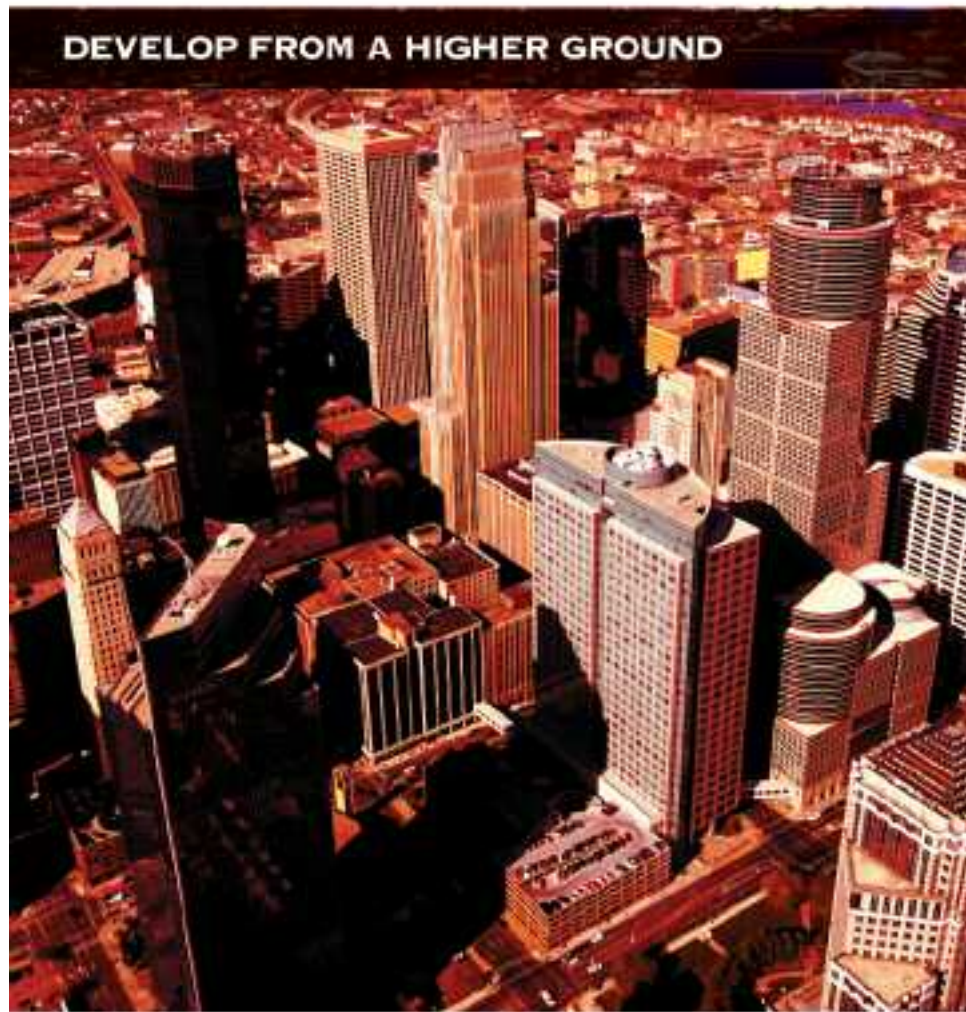
whether or not Qualcomm has done so, and therein lies the rub.

Ramya Narasimhan, a senior analyst with the market research firm Datamonitor, does not believe that Qualcomm is a monopoly. "Qualcomm is one of the dominant players in the CDMA technology market." But, he added, that alone was not enough to make the company a monopolist, because various technologies compete in the mobile telecom market.

Indeed, a SWOT (strengths, weaknesses, opportunities and threats) analysis published by Qualcomm in May identified intense competition as a threat. Narasimhan noted that the SWOT point was based on the 10-K report submitted by Qualcomm as part of its annual filing to the Securities and Exchange Commission. ■

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THE CONVERGENCE OF DOCUMENTS, MEDIA, AND APPLICATIONS

Borland Updates Modeling Tools With Domain Specifics

BY JEFF FEINMAN

Borland Software in October announced a new version of its Together modeling tool, shipping what it claims is the industry's first platform-independent solution for domain-specific languages (DSLs).

The DSL Toolkit in Borland Together 2007 is designed to help organizations overcome the complexity of UML by allowing project teams to create model notations that cater to their own business needs. These notations can be used to create models of application architectures and business processes, and improve efficiency of modeling among project teams. Borland officials said that these capabilities are appealing to people who want to use modeling but don't want to learn UML.

The DSL Toolkit provides organizations with the flexibility to create platform-neutral designs. It consists of metamodels, visual editors, model-to-model transformations,

and model-to-text transformations and document templates. These features are geared to helping users create a model that aligns with the needs of their business. It allows users to define their own domain model and complement that with proper diagrams and notations to suite their needs.

"What we're looking to do with the DSL Toolkit is complement existing modeling standards and notations with the ability to fully customize and tailor to a specific business domain for that particular business," said Richard Gronback, chief scientist at Borland.

Borland Together 2007 is based on the open source Eclipse framework and

conforms to Model Driven Architecture-related standards, including Object Constraint Language, QVT (Queries/Views/Transformations), XMI (XML Metadata Interchange) and, of course, UML. Gronback said that this brings open source technology into the product line, providing an open and extensible set of underlying technologies for customers to use.

Borland Together 2007 can integrate with the .NET platform and provide sample diagrams. New language features and additional wizards can simplify the creation of transformations.

According to Marc Brown, vice president of product marketing for Borland,



'We're looking to... complement existing modeling standards and notations.'

—Richard Gronback,
chief scientist, Borland

Borland Together 2007 was designed to offer a complementary set of modeling capabilities in a single product with broad appeal and applicability to business and IT analysts, architects and lead developers.

"If you look at the marketplace, there are many modeling tools, but many of them are very specific," he said. "They may support UML, business process modeling or other types of notations, but they don't give you a good single tool that you can train your enterprise on that not only provides notation support, but also provides transformation techniques and automation in between." ■

SESSION SUITE SKIPS CALL CENTERS

BY ALEX HANDY

BlueNote Networks is sick of call centers. The company will release a new suite of software in November that gives developers the ability to handle call routing as business logic.

Alan Rosenberg, director of product management at BlueNote Networks, explained that Session Suite Presence Service frees corporations from the tyranny of managed call centers. "We're delivering voice as a reusable service in an IT architecture," said Rosenberg. "Anytime a business has a need to route a telephone call based on skill set, title, language or business rules, we're providing technology that allows customers to integrate [call routing] into a Web site or a business process. [This] allows an enterprise to

make these contextual call routing features so they can route these calls to anyone in a business, not just a call center."

Many organizations, Rosenberg said, are only now considering their phone systems to be part of the broader IT infrastructure, and many new projects are being started that integrate phone systems and business processes and rules.

But BlueNote's Session Suite Presence Service takes these integrations to a new level with a window into the availability of end users at the time of call routing. Rather than sending callers to voice mail for missing employees, the software can decide to pass the call down the chain to the next best person on the list. ■



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Eclipse 'RAP's Java in AJAX Code

Rich AJAX Platform offers server-side application development

BY ALEX HANDY

The Eclipse Foundation has completed work on its first piece of middleware. The Rich

AJAX Platform (RAP) version 1.0, released in mid-October, gives Java developers a new way to speak AJAX. RAP 1.0 offers a

server-side solution for Java application deployment into AJAX compatible clients.

Jochen Krause, developer at

Innoopract and the project lead on RAP, explained that the platform is based on a commercial tool he helped to build back in

2001. The World Wide Web Windowing Toolkit eventually morphed into RAP by July 2006, when Krause first proposed the project to the Eclipse Foundation.

But it's new territory for the foundation. As a server-side solution for AJAX deployment, RAP is not an IDE plug-in; unlike the rest of the Eclipse Foundation's projects, RAP is strictly middleware. It runs on a Java application server, and dynamically translates Java Web applications into AJAX so that screens can be passed to the browser without the need for plug-ins on the user's end.

RAP is built on Equinox, the Eclipse implementation of OSGi. As such, said Krause, it makes for a more componentized platform. "Someone can write an application, and someone else can contribute to the UI, or you can reuse a component that's dealing with business logic, [and use it] on the desktop and on the server," said Krause.

The biggest boon for developers looking at building Java-based Web applications, said Krause, is that they can take Eclipse RCP applications, or any Java application for that matter, and quickly push a browser-friendly version to users without major changes to the code. Krause estimated that roughly 10 percent of the code in an Eclipse RCP application would need to be changed before it's ready for a RAP deployment.

100 PERCENT USABILITY?

Krause explained that when he began on the project, he and his collaborators didn't expect to be able to achieve this high a level of code reuse between desktop and Web applications. Nevertheless, they managed to do it, so for the future, the team's goal is to hit 100 percent reusability.

But Krause admitted that the team is not certain this can be done. "We still think a couple of things are not possible. But we'll see if they really are. From the community, the biggest request is for graphical editors. If you think about SOA and business process stuff, people would love to just model that in a browser, and execute it on the same server you model it on," said Krause. They hope to enable this sort of application modeling with their next release. ■

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```
int main(int argc, char** argv)
{
    int status = 0;
    startSCMOperation();

    // Eliminate the wait
    // We don't need it anymore
    // wait(&status);

    beginCoding();
    return SUCCESS
}
```

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NEWS BRIEFS**COMPANIES**

MySQL AB has plans to integrate its MySQL Enterprise Server with the SAP NetWeaver platform. SAP officials said that their work with an open source database like MySQL would allow customers to have more options in creating business applications using enterprise SOA. ... **Red Hat** has unveiled the Red Hat Partner Center, an online resource for its global business partners. The Red Hat Partner Center, which can function in eight different languages, gives partners access to pricing and training information on both Red Hat and JBoss solutions.

NEW PRODUCTS

Secure Computing, a provider of enterprise gateway security, has released the **Secure Web 2.0 Anti-Threat (SWAT) Initiative**, which provides tools and best practices to help companies have strong Web and messaging security. Among the characteristics of a secure Web environment that Secure Computing lists are Web and messaging filtering for all domains, anti-malware protection using real-time analysis of code, data leakage protection on key Web and messaging protocols, and bidirectional filtering and application control.

UPDATES

alfabet, a provider of strategic IT planning and management, has announced **planningIT 3.1**, a tool that helps IT organizations analyze the business architecture and discover strengths and weaknesses. Its Strategy Deduction module defines the business strategy so it can be translated into specific enterprise architecture changes, and is claimed to provide a stronger business context for project portfolio reviews. ... Debugging and analysis software creator TotalView has introduced a new version of its **TotalView Individual Edition Debugger** to support source code debugging on quad-core machines. The tool is geared to developers who want to debug applications on laptops or single workstations. It can be utilized on single, dual-core and now quad-core machines, with programs running up to a maximum of 32 processes or threads, on Linux x86, Linux x86-64, Mac OS X and Solaris Opteron. ... Novell has announced **openSUSE 10.3**, a community Linux distribution that helps users get started with Linux. openSUSE 10.3 includes a Linux-Windows dual-boot configuration, an improved user interface, and Microsoft Office file compatibility with the latest OpenOffice.org office productivity suite. The new version also has enhanced multimedia support. ... Telelogic has released **Telelogic Focal Point 6.1**, the latest version of its product management tool, with a new integration with Microsoft Project that provides visibility into product schedules and utilizes Microsoft Project's abilities to assign resources and tasks, track progress, manage budgets and analyze workloads. ... WebAssist, a creator of extensions and software add-ons for the Adobe platform, has released **DataAssist 2.0**, its database-driven site builder for Dreamweaver professionals. DataAssist 2.0 brings Dreamweaver users the ability to update or delete multiple records, while providing advanced searching capabilities and new layouts for multiple column data displays. ... Content management solution provider Interwoven has released the latest version of **Interwoven Composite Application Provisioning**. The updated tool,  **INTERWOVEN**, which automates and standardizes the deployment of Web applications, comes with new graphical reporting that can provide statistical data associated with applications, and end-to-end automation with schedule workflow tasks.

PEOPLE

Mark Webbink has been named to the board of directors for the Software Freedom Law Center. Webbink previously served as the first general counsel of Red Hat, a position he had held since 2000. At Red Hat, Webbink was deputy general counsel for intellectual property. He is also a senior lecturing fellow with the Duke University School of Law and consults with open source companies on business strategies. ■

IntelliJ IDEA 7.0 Looks Past Java Frameworks

JetBrains' IDE now supports Groovy and Ruby

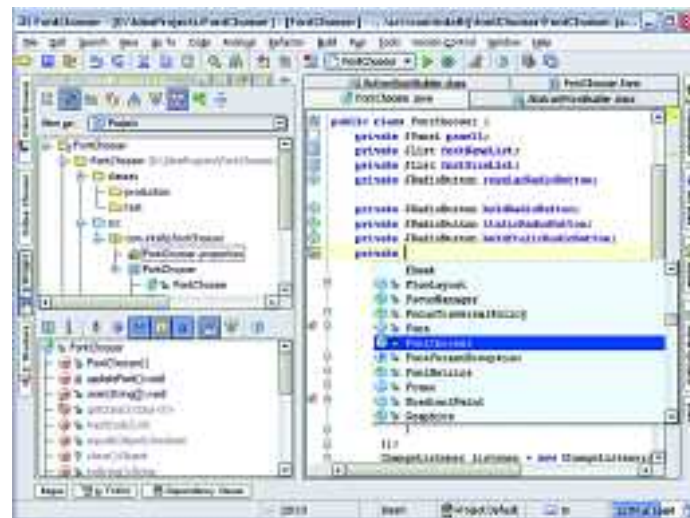
BY ALEX HANDY

JetBrains in mid-October cleared IntelliJ IDEA 7.0 for landing. This time around, the company focused on integrating Java development with other languages, and with Java frameworks. Version 7.0 expands support for Spring and Hibernate, while also introducing facilities to develop Ruby and Groovy applications without shifting into another IDE.

Aside from the performance and usability updates, IntelliJ IDEA 7.0 offers new ways to use HTML, CSS and XML, aiming to ease Web application development. Also new are built-in support for JavaScript and Web services.

JetBrains CEO Sergey Dmitriev noted that "besides introducing support for many new technologies, we focused our efforts on further upgrading performance, usability and user experience. As many of our users have attested, attention to details is what sets our IntelliJ IDEA apart from other IDEs."

But not all of the new features are specifically targeted at the IDEA-ist. Eclipse users can now import Eclipse projects into



JetBrains' IntelliJ IDEA 7.0 gives developers a full view of their projects, from the repository all the way down to specific classes.

IDEA without fear of format changes or lost data. Maven support has also been seamlessly integrated into IDEA, letting developers check buildable code in and out easily while maintaining proper directory structures inside their repositories.

With IDEA 7.0, IBM Rational ClearCase support has also been improved to make it easier for developers to handle ClearCase information inside the IDE.

At its heart, however, IntelliJ IDEA has always been about

refactoring code, and this version introduces still more refactorings. Many of these are specifically targeted at XML. IDEA 7.0 also includes 50 new code inspections and some new quick fixes that can be run against faulty code.

Developers who purchased a copy of JetBrains IntelliJ IDEA after Aug. 13 will be entitled to a free upgrade to version 7.0. The IDE is available for US\$499 for a commercial license, or \$249 for a personal license. ■

A Universal Translator for QA

FanFare's iTest Team helps developers, QA communicate

BY DAVID WORTHINGTON

One might think that requiring noncoders and developers to use the same QA tool would be a universally panned decision. After all, not everyone has the know-how to write TCL scripts. But FanFare Group expects universal praise, having found what it thinks is an easier way.

FanFare's new test automation software, iTest Team, which became generally available at the end of October, uses XML to normalize and structure data so that teams can share test assets, and represents their work in the same language. XML tags enable users to point out visual cues that are tied to key success criteria for tests, instead of

writing scripts.

For instance, success might mean a counter counting, data populating a table or a light turning green.

"It is hard to write that all in code," said Kingston Duffie, FanFare's founder and chief technology officer, who added that variables move and scripts are brittle. Instead, iTest Team users simply "point to what they are interested in and write a rule. The product is trying to take away the requirement to be an expert coder."

iTest Personal is the first module of iTest Team. Its assets are retrieved from recorded test cases and used for analysis and mapping, making it possible to correctly

use visual cues. The behind-the-scenes information is in XML, Duffie explained.

Duffie added that having developers and noncoders use the same tool creates synergy and increases productivity. "People understand the box that they test...the commands sent, responses and rules," said Duffie. "It is the tester's language."

iTest Team also features automated regression testing. Its Test Audit feature permits recorded tests to be accessed, re-created and rerun at any time. In addition, it can verify the behavior, functionality and performance of a network device, or group of similar devices, by executing simultaneous commands to devices. ■

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HP Strategy Adds Some SaaS to Software Portfolio

BY JEFF FEINMAN

Like a young child gathering up friends on the playground to let them in on a big secret, Hewlett-Packard has begun telling customers and develop-

ers about its relatively unknown SaaS capabilities.

"The vast majority of folks out there—customers, prospects, analysts, press—were not aware that HP had software-as-

a-service solutions," said Marc Olesen, vice president of SaaS for HP. "We want to go to market and drive awareness that HP does have mature SaaS solutions."

Although HP claims to have been in the SaaS business for the past seven years, its main SaaS competency comes from last year's acquisition of Mercury Interactive. At Mercury,

the offering was called Mercury Managed Services, and HP relabeled it as SaaS, based on the offering's availability over the Internet, shared tenancy, and the fact that it is offered on a subscription basis.

Unlike Salesforce.com, which automates sales and is geared toward the business side, HP's SaaS-iness is focused on IT service management from executive and user demands, through change impact and into production.

HP SaaS taps into the HP Business Technology Optimization (BTO) software portfolio, which includes the Project and Portfolio Management Center, Quality Center for functional testing, Performance Center for load testing, and Business Availability Center for production monitoring.

"What we see is that IT is the business, so the solutions and applications that IT is responsible for drive all operations," Olesen said. "With that level of significance, we've got a broad portfolio that helps IT operate more efficiently and really meet the needs of the business."

One advantage of HP's SaaS capabilities, Olesen said, is that the adapters and APIs are already set up for integration with third-party products, and customers can choose either on-premise deployment or SaaS. If customers feel they are not getting the best value from on-premise deployment, they have the ability to switch to SaaS.

Olesen added that plans exist to expand HP's SaaS offerings by including other areas of its BTO portfolio, bringing products from product centers such as Service Management Center, which automates the life cycle of IT service and asset management processes.

A DIFFERENT FOCUS

Olesen noted that HP's focus is on IT, and it is dipping into a different pool than SaaS poster child Salesforce. "I don't see us competing with Salesforce at all," he said. "To our understanding, Salesforce is offering solutions that appeal to the sales department, helping automate sales department functions. Our solutions are more set to appeal to the IT department." ■

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Seapine Tools Getting IT Together

Test management, SCM tool updates big on better data organization

BY JEFF FEINMAN

Seapine Software has broken out new automation, organization and file retrieval features in two new versions of its configuration and test management products.

Seapine last month released version 2008 of its TestTrack Studio defect tracking and test case management tool and its Surround SCM source code control and configuration management tool.

TestTrack Studio 2008 comes with expanded searching and organizational capabilities. Users can search for things in a type-and-click method, or they can find them with a new folder system that allows developers to organize test cases and test runs.

Also new in TestTrack Studio 2008 are automation and escalation rules. These are intended to prevent lapses by having TestTrack Studio periodically comb its data and find items that haven't been updated or fixed. TestTrack Studio users can determine how often they want to set up these data scans. Event-based triggers can modify data or send e-mails if an issue appears stale.

TestTrack can also push data into other systems by way of a triggering system. When a rule changes, data can be pushed to an external application.

"TestTrack Studio 2008 is all about getting more out of the data you already have, and being able to use the data you already have," said Grant Lammi, a technology evangelist for Seapine. "A lot of times, you get defect tracking systems that make it easy to put the data in, but then beyond that, it gets more difficult. One of our goals is to help improve quality, not only by organizing and managing all this stuff, but by doing it in a way where you're not messing with the system."

CHANGE GETS BIGGER

Surround SCM 2008 has a new proxy server that aims to improve the speed of file retrievals for distributed teams, by joining recently accessed files. "We're trying to take the slow network connections across the Internet out of the equation," Lammi said. "The proxy server will run at a developer's local office, and it does

some smart networking and caching of the data, and it tremendously improves the speed."

The new releases are also claimed to offer improved integration between TestTrack Studio 2008 and Surround SCM

2008 when managing issues and source code changes. Surround SCM server now runs on 64-bit platforms, allowing access to

more RAM, increasing the number of branches that can be loaded when the server starts, and handling larger projects. ■



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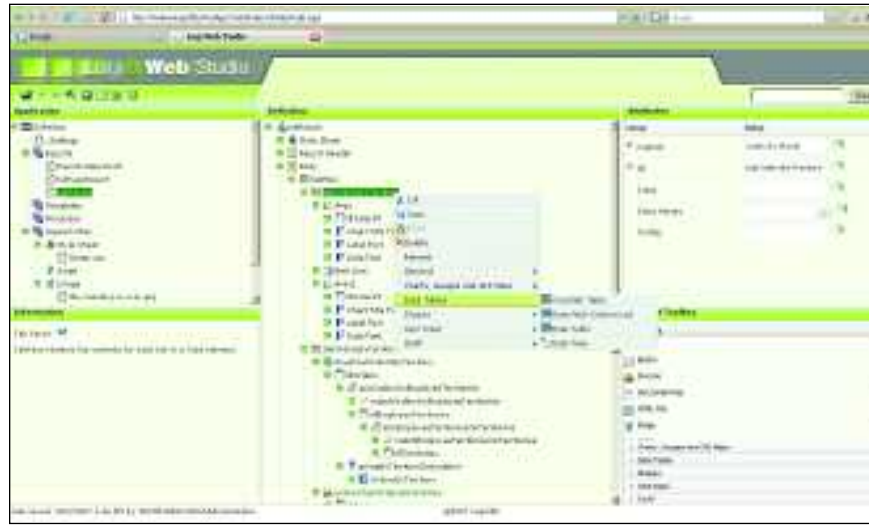
Search, Web 2.0 tools new in Logi 8

BY DAVID WORTHINGTON

Innovations from consumer technology are constantly surfacing in the enterprise; after all, many companies got their first PC out of an executive's trunk when IT wasn't looking. Technology that was once primarily used to comb the Web for a new set of golf clubs or to create widgets for MySpace profiles is now augmenting business intelligence (BI) software.

LogiXML in early October released Logi 8 BI Platform version 8.2, adding enterprise search capabilities via the new Logi Intelligence Server, and including new tools for developers to produce Web 2.0-style visualizations.

The Logi security model governs the enterprise search feature; server administrators maintain full control over the data and set users' permissions. The



Logi Web Studio is a browser-based environment for creating visualizations.

Logi Ad Hoc user interface now provides internationalization support, for customizing UIs that must be translated into other languages. Customers set up and maintain their own servers, said Rachel Shortt, director of product marketing at LogiXML.

The Logi Intelligence Server enables enterprise search and offers historical data analysis capabilities that LogiXML has dubbed "Time Machine."

Logi 8 BI's new Time Machine creates trend reports by taking repeated snapshots of data on a scheduled basis for comparison. Organizations can also set automated alerts and processes for exemptions in the data.

Also new in the update to Logi 8 BI is Logi Web Studio, a browser-based report studio that the company claims allows more flexible reporting and better support for non-Windows platforms. This release also adds new reporting features that create visualizations in the form of Text Clouds, a depiction of the relative weighting of links, phrases and words by font size and color.

Shortt said that the company is going to add more functionality around the server for more advanced analytical calculations. It is also developing a Java version of Logi BI. The next major release of the platform is slated for January. ■

FINDING THE CHINKS IN PROCESS ARMOR

BY DAVID WORTHINGTON

It's not enough to know that something went wrong in a business process; for some businesses, knowing what went wrong is becoming an obligation.

Software AG in September released the WebMethods Optimize process monitor, which attempts to provide that insight. Optimize is a B-to-B solution that uses the recently acquired WebMethods Business Activity Monitoring (BAM) engine to track process executions and compile a behavior record.

Optimize can be configured to automatically trigger business rules in response to exceptions, and the company claims it can flag exceptions by using predictive alerting, root-cause analysis and statistical baselining.

Executives are provided with key performance indicators (KPI), and a complementary self-service application for customers, which can be used to personalize access to KPIs and real-time reporting. The KPIs are designed to help managers realize the effect of their decisions.

Software AG has beefed up BAM's security for the new role with the introduction of role-based transaction monitoring; access to sensitive corporate data is controlled and logged. ■

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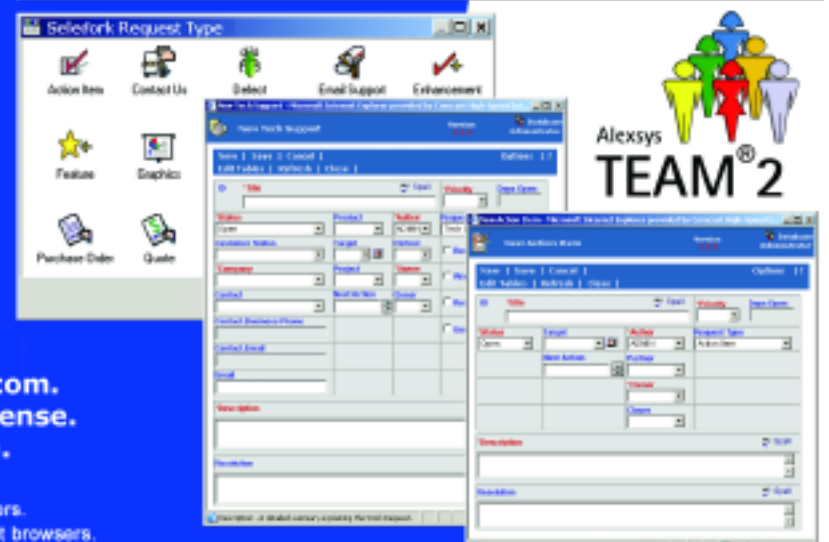
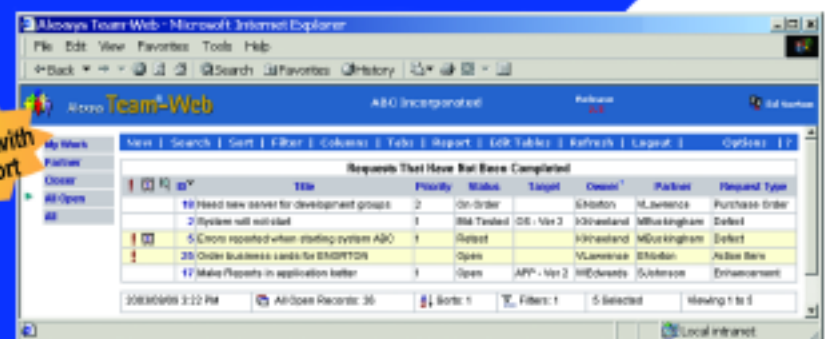
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Adobe's AIR Runtime Gets a Second Wind

Beta 2 release enables background execution, has new security model

BY JEFF FEINMAN

Adobe Systems has rolled out the second beta release of its Adobe Integrated Runtime (AIR) rich internet application creator.

AIR is a cross-operating system runtime being developed by Adobe that allows developers to build and deploy RIAs to the desktop. The free application tool, formerly known as Apollo, targets developers who use Web technologies such as AJAX, Flash, Flex, HTML and JavaScript.

The beta 2 release, which was announced at Adobe MAX in early October, adds more fit-and-finish to the runtime, along with background application execution. Beta 2 also brings system tray notifications, with new APIs that can be used by applications to provide alerts on events.

AJAX SANDBOX DEBUTS

Other enhancements in the beta 2 release of AIR include a synchronous database API, and a new security model that provides the ability to use existing AJAX frameworks within a sandbox. Users can then leverage other types of content within the application, with protection against code or injection attacks.

AIR consists of two parts: a runtime that supports the installation and execution of applications on Windows, Mac OS X and Linux; and an SDK that provides free tools for developing these applications. Adobe first released an alpha version of AIR on March 19, followed by its first beta release on June 11.

"In the first alpha, we focused on Flash-based applications, making sure that you could take a Flash-based app, whether it be Flex or an application using Flash, and take it to the desktop," said Luis Polanco, senior product manager for the platform business unit of Adobe. "In beta 1, we added additional AJAX support, so now you could build a completely HTML-based application, and you don't have to use any Flash whatsoever."

The first beta release also saw AIR receive integration capabilities with PDF and

with the SQLite database, a C library that implements a zero-configuration database engine.

Adobe wants to allow appli-

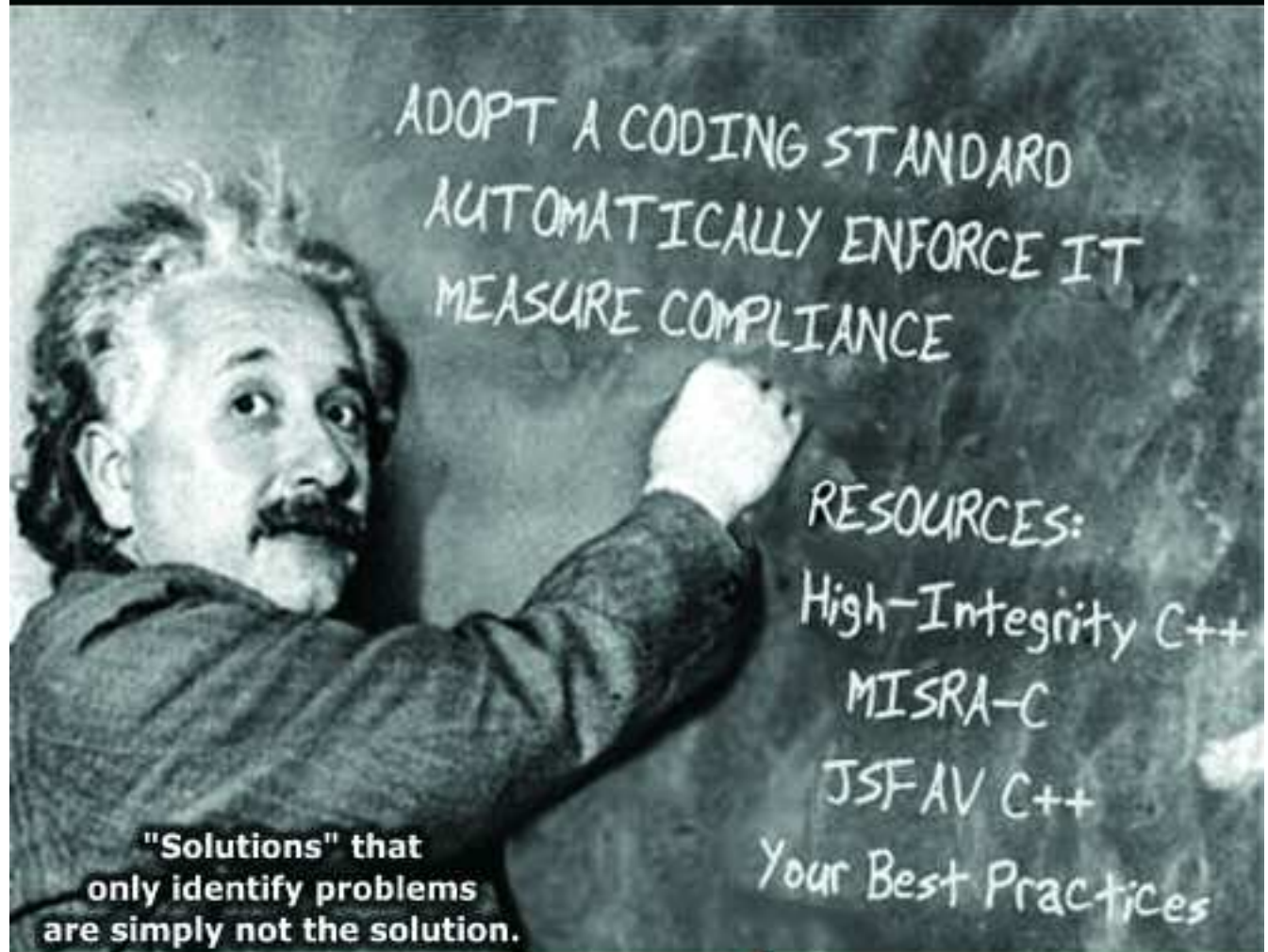
cations built with AIR on Web technologies to behave like traditional desktop applications, Polanco said. AIR gives

developers complete creative control over the application experience, and eliminates cross-browser testing.

According to Polanco, AIR is scheduled for general availability early next year; the beta code is set to expire in June. ■

Intellectuals solve problems.
Geniuses prevent them.

— Albert Einstein



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DataDirect Casts Its Latest Shadow

BY P.J. CONNOLLY

DataDirect Technologies expanded its reach in October, by adding support for MySQL to its line of database drivers and by announcing on Oct. 15 a

major update to its Shadow mainframe integration suite.

The forthcoming Shadow version 7 is based on technology that takes advantage of specialty processing engines in

IBM's System z9; DataDirect has at least one patent pending on the technology. The System z's specialty processing engines offer mainframe customers a sort of free lunch:

They are not speed-governed and do not count against one's contracted mainframe processing capability, thereby reducing costs.

Shadow 7 will allow the use

of the zIIP (System z9 Integration Information Processor) with workloads other than DB2, including mainframe data queries and SOAP/XML parsing. It will also allow the use of the zAAP (System z Application Assist Processor) in SOA integration processing.

The Eclipse-based Shadow Studio management console offers new BPEL (Business Process Execution Language) tools, including a graphic designer and a runtime management interface, but users are free to run any BPEL 2.0 designer.

DataDirect vice president of product operations John Goodson noted in a prepared statement that the company offers "high-performance access to data wherever it's stored—in a relational database, in an XML document, or now, in a mainframe environment."

HOOKING UP MYSQL

The Progress Software subsidiary had earlier, on Oct. 1, announced that its line of database connectors—DataDirect Connect for ODBC, DataDirect Connect64 for ODBC and DataDirect Connect for JDBC—were now available for MySQL Enterprise 5.0, with a claimed 100 percent specification compliance.

Both the JDBC and the ODBC drivers support the MyISAM and Memory (formerly HEAP) storage engines as well as Oracle's InnoDB, share basic features such as support for connection failover and load balancing, and can be managed by DataDirect's performance tuning wizard. They will be sold separately.

The Type 4, native JDBC driver is claimed to be fully compliant with Java SE 6, Java EE 5 and JDBC 3.0; select JDBC 4.0 functions are also supported. The driver works with a variety of application and Web server environments, including the Apache Jakarta family, BEA's WebLogic, IBM's WebSphere and Red Hat's JBoss; the company claims that any standard environment will do.

The ODBC drivers run on Linux, Unix and Windows platforms, can be managed with DataDirect's ODBC Driver Manager, and are compliant with ODBC 3.52, with Level 1 conformance. They also support leveling, for use with different SQL implementations. ■

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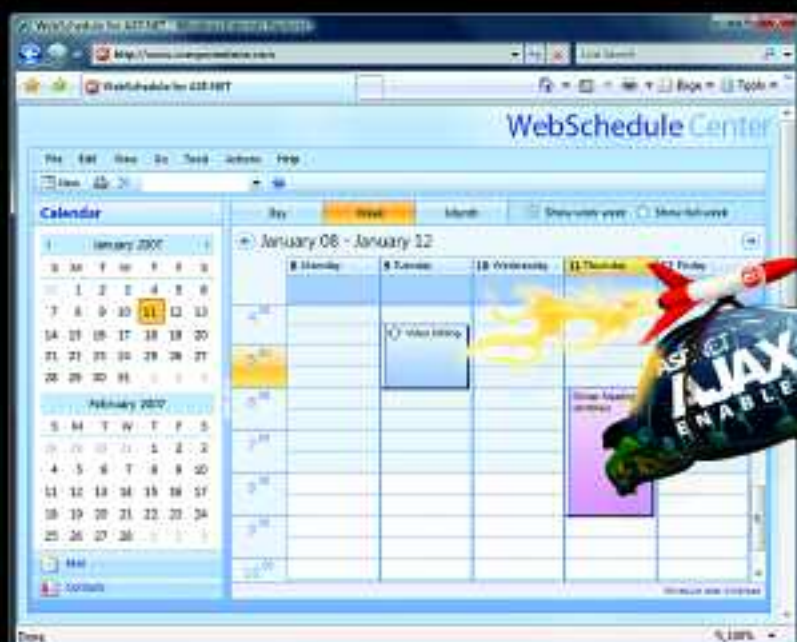
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Trolltech Takes on WinCE, RIAs in Qt Update

BY ALEX HANDY

Some Norwegians are sick of writing the same code twice. Oslo, Norway-based Trolltech, at its annual Developer Days in Redwood City, Calif., in

October, announced that the future of its cross-platform development toolkit, Qt (pronounced "cute"), will involve writing code once, and running it anywhere. To this end, when

Qt 4.4 is released next year, it will include new support for Windows CE and Windows Mobile, as well as a Web browser engine for use with rich Internet applications.

Haavard Nord, CEO and founder of Trolltech, noted that all developers recognize one fundamental rule of programming: There are always trade-offs. As evidence, he cit-

ed the difficulties of developing applications that must run both on the desktop and on mobile platforms. "If you use cross-platform development frameworks, you get the lowest common denominator and slow code. The trade-off is either write the code many times, or get an application that sucks. We believe that we have eliminated that trade-off," said Nord, describing the future of Qt.

Nord added that "going forward, the line between desktop and mobile will blur and eventually vanish. Ten to 15 years from now, there will be lots of platforms to develop for, and we want to prepare for that by creating a convergent platform."

To begin this headlong charge into cross-platform compatibility, Nord explained that Qt 4.4 would allow developers to write an application that will run on Windows desktops and mobile platforms with little or no modification. Rather than offering a slimmed-down API for resource-starved mobile platforms, Qt 4.4 will offer everything—except OpenGL support—needed to work with Pocket PCs. Desktop applications will be able to run on Windows Mobile devices without the need to remove incompatible actions and functions from the code before deployment.

WEBKIT INCLUDED

To further address cross-platform development, Nord said that Qt 4.4 will include the WebKit project, which may be most familiar to developers as the basis for Apple's Safari Web browser. Instead of developing RIAs with C++ and other desktop technologies, Qt 4.4 will allow developers to embed the WebKit engine into their applications, giving them access to HTML and JavaScript actions. This is intended to minimize the trade-offs normally associated with choosing between Web- and desktop-based connected applications.

For now, developers must settle for accessing these new features in a preview; the Trolltech Labs Web site (labs.trolltech.com) will offer technology previews until Qt 4.4's release around the end of the first quarter of 2008. ■

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Zend Opens Windows on PHP

Agreements expected to make PHP faster on Windows, Oracle

BY ALEX HANDY

Zend Technologies, at its annual ZendCon PHP conference in San Francisco in October, announced multiple moves in concert with Microsoft, which are expected to result in faster performance for PHP applications running on Windows.

Andi Gutmans, Zend co-founder and CTO, said that numerous news announcements made at his company's conference have a single theme: building an ecosystem around both PHP and Zend. "About 55 percent of our customers want to build hybrid applications," added Gutmans, explaining that the difficulty of creating applications consisting of multiple languages is mitigated somewhat by Eclipse, thereby driving his company's move toward the open source framework.

That led to the first announcement on Oct. 9, the public availability of a preview version of Zend Studio for Eclipse. Built on the Eclipse PHP Development Tools project, this IDE includes full life-cycle support and unit testing integrations.

Zend also announced an update to its distribution of PHP, Zend Core 2.5. Gutmans said that the primary change in Zend Core is an updated deployment model. Users in large-scale PHP shops can now install the Zend Core remotely across grids and server farms.

But the biggest announcements at ZendCon related to the fulfillment of agreements between Zend and Microsoft made earlier this year. Microsoft has begun to contribute to the Zend Framework open source project, which seeks to create a standardized PHP application framework for enterprise users. Microsoft's work on the project will focus on integrating the framework with identity management capabilities.

Gutmans noted that as part of the agreement, Microsoft has made changes to its IIS Web server to make PHP run faster. For Windows Server 2003 and the upcoming Windows Server 2008, PHP runtime speeds should be vastly improved, he added, thanks to Microsoft's modifications. Additionally, Windows Server Core, an upcoming edition of Windows Server that is

stripped down for smaller installations, will include PHP support.

Zend also announced agreements with Oracle and IBM at ZendCon 2007 that center on

database integration and support. For developers building applications in PHP that are backed up by IBM DB2 databases, Zend will now offer sin-

gle-source support for the language and the database.

On the Oracle side of the fence, PHP applications connecting to Oracle databases will

now be able to use connection pooling to minimize database access demands. Gutmans explained that Oracle changed the driver in PHP that controls access to its databases to support connection pooling, and has subsequently contributed these changes to the open source PHP project. ■

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Datalogics Offers .NET Document Choices

New interface lets .NET developers use Adobe PDF Library API within applications

BY JEFF FEINMAN

Datalogics, which specializes in document technology, has released a .NET interface for its Adobe PDF Library that will allow application developers to integrate the library's API into their .NET environments.

Datalogics, partially owned by Adobe Systems, offers the Adobe PDF Library as a developer toolkit that allows third-party developers to support the PDF format within their own applications. The library was originally written in C++, and in order to use it, developers needed to be familiar with that language. However, as developers increasingly focused on Java and .NET, Datalogics created first a Java interface, and now, the .NET interface for the library to spare newer developers the chore of brushing up on their C++ skills.

"We saw a trend in the developer community for tools that could operate under a managed code environment," said Greg Manuel, vice president of marketing for Datalogics. "A couple of years ago, we built a Java interface because we had customers that were developing in Java. More recently, more people were asking us about what we were doing about .NET."

Manuel claimed this is the first time that developers will be able to have a .NET interface to the Adobe PDF Library API. Other companies have built their own tools and SDKs with the rise in popularity of PDF, but the base of those tools is not Adobe's code, as Datalogics' is, he said.

XPS NO THREAT

When asked if this is a way for Adobe to draw Microsoft users onto the PDF platform, countering Microsoft's promotion of its XPS format as a PDF alternative, Manuel said that the .NET interface was more of a Datalogics initiative than an Adobe initiative.

"I think Adobe is aware of XPS, and they probably have their own plan for whether or not they see that as a threat and what to do about it, if anything," Manuel said. "This particular initiative is really about opening it up to other developers. In this case, more and more devel-

opers are using the .NET Framework, and that's the reason that we built it."

In addition to the new .NET

interface, the library's Java interface has received an update. Both interfaces are available as part of the standard distribution

of the Adobe PDF Library.

"From Datalogics' perspective, we intend to keep all of our interfaces updated and main-

tained, and so as we released the .NET interface, we felt it was a good time to update the Java interface," Manuel said. ■

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Fortify Adds JavaScript, PHP to Code Analyzer

BY JEFF FEINMAN

Fortify Software has added customization and collaboration capabilities to the latest version of Fortify Source Code Analysis.

Fortify SCA 5.0, which was expected to be released in late October, comes with the ability to modify the way in which analysis results are filtered, prioritized and allocated. It

also offers developers the opportunity to scan code of a larger number of languages. The tool now has the ability to either load code scan results into existing tools, or upload

them into an HTML interface and a Web interface. Through the second method, groups of people can view and audit those results.

"You will now have an option

of either using multiple tools to do audits individually, or can use the HTML interface to do it collaboratively," said Barmak Meftah, vice president of products and services for Fortify.

Fortify SCA now supports PHP, with Meftah noting that the company has seen a trend of developers writing more Web applications with PHP. It will also have full language support for JavaScript, in acknowledgment of the increasing use of AJAX. In addition, there will be the ability to write with Microsoft Visual Basic and Active Server Pages (ASP).

"We didn't support that up until now...because we were assuming that the conversion between classic ASP and classic Visual Basic would happen to .NET much more expeditiously," said Meftah. "Although we see a big adoption trend with .NET already, there is a huge installed base on ASP and Visual Basic out there, which I don't think is going to change as fast as we thought it would."

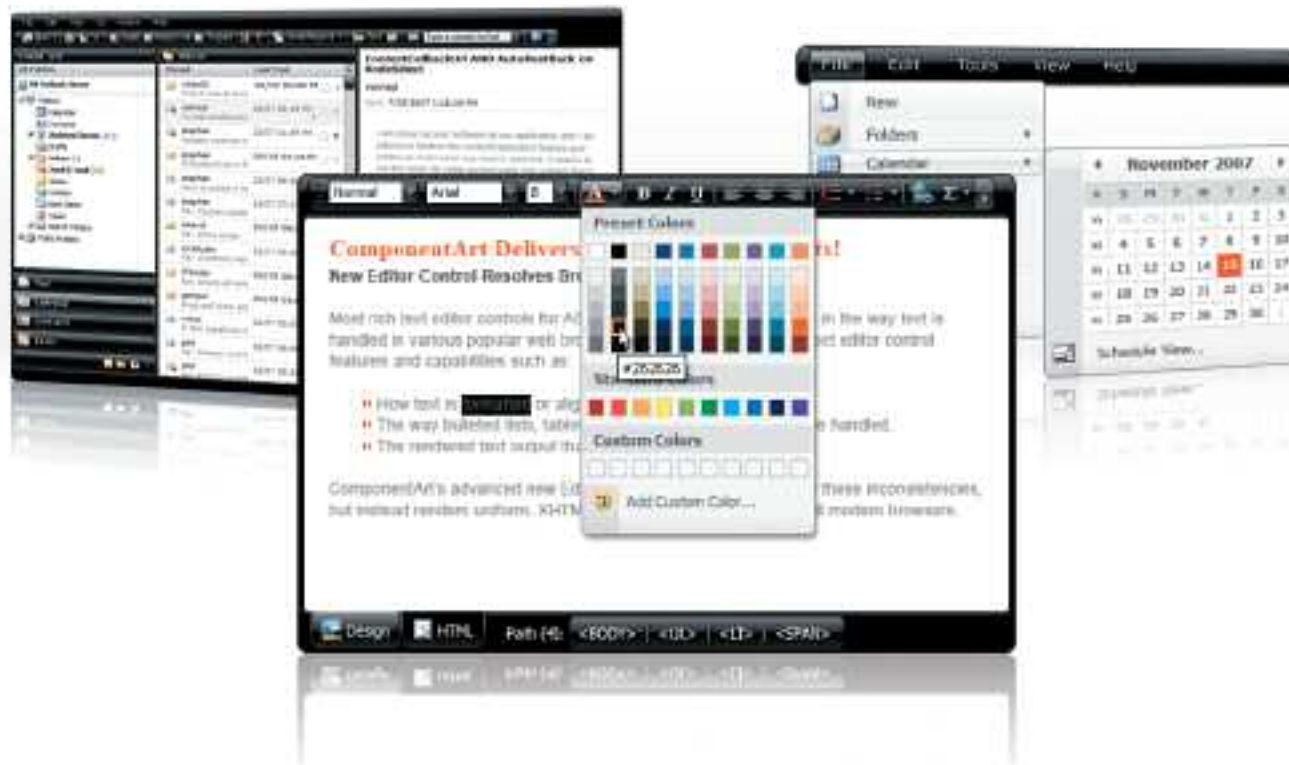
COBOL IN THE CARDS

Meftah also said that COBOL support would be in an upcoming preview release. Meftah noted the frequent use of COBOL in financial services and in the federal government. To this day, COBOL still runs some of the most mission-critical pieces of those organizations, he said.

Another feature of Fortify SCA 5.0 is enhanced extensibility and customization. Meftah said the tool has two key components, the engine component containing analysis algorithms, and Fortify rules, for secure coding. End users have the ability to write their own sets of rules. The interface around the Fortify rules, which are updated every three months, has been beefed up through enhanced integrations with Fortify Audit Workbench, which combines Fortify's source code analysis capabilities and a user interface, allowing developers to prioritize results.

Other new features in Fortify SCA include a rules wizard, unlimited multidimensional taint propagation and an API scan view. Development teams can also publish the results of a source code scan to Fortify's Team Server for review. ■

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Bringing Distributed Caching to Linux

ScaleOut Software creates session state server for open source platform

BY DAVID RUBINSTEIN

ScaleOut Software is set to roll out a preview release of its new Linux distributed caching software in the next two weeks

that also will have features for grid computing.

The company already offers ScaleOut State Server for the .NET environment. The Linux

software will give customers interoperability between the platforms, and, as it is written in C, runs natively on either platform, according to William Bain,

founder and CEO of ScaleOut.

"We'll mix and match in any environment, and users can opt to run a remote caching option on Linux," Bain said. "This puts

us ahead by having native performance and interoperability."

Distributed caching enables session state or business logic state, such as shopping cart information, to be held in server farms with the data being globally accessible across the farm, Bain said. But he's seen a change in customer requirements: Transparent session state storage is no longer enough; people now want to store interim calculations, as a way to both measure the accuracy of the result and trace the steps that led to the result.

Another key to distributed caching is high availability, made possible in the ScaleOut solution by data replication and parallel remote method invocation, he added. This latter technique enables the performance of a function on a data object that creates a new object that then can be aggregated and reported upon, Bain said.

This offers the benefit of low latency; however, that kind of data store doesn't have time to do complex querying. ScaleOut plans to add the ability to query and select data in the cache that matches some criteria, through the application of index values. Later on, he said, the company hopes to migrate to LINQ (Language Integrated query) as a way to specify queries to the ScaleOut cache in a .NET environment.

CACHING CHANGES

The benefits of distributed caching can already be seen in grid computing, said Bain, because it removes the bottleneck of database access. "Distributed caching is a core technology to the grid computing ecosystem," he said. "Add publish/subscribe messaging, event processing and compute grid job scheduling, and you're providing a platform for grid computing."

Grid computing, according to Bain, is seeing an uptake in the financial markets, especially the area of risk analysis. "They need to be able to look at a set of securities and correlate that data with market trends, and they have from the close of market to the next day to rebalance the portfolios they manage," Bain said as an example. Without a grid, he noted, the latency inherent in these types of transactions would prevent the organization from completing its analysis. ■



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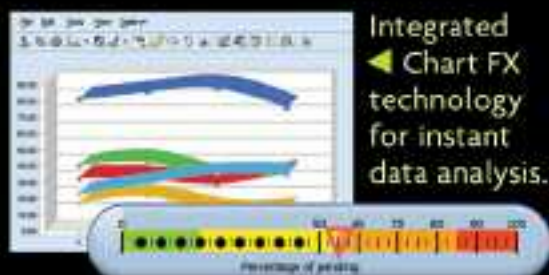
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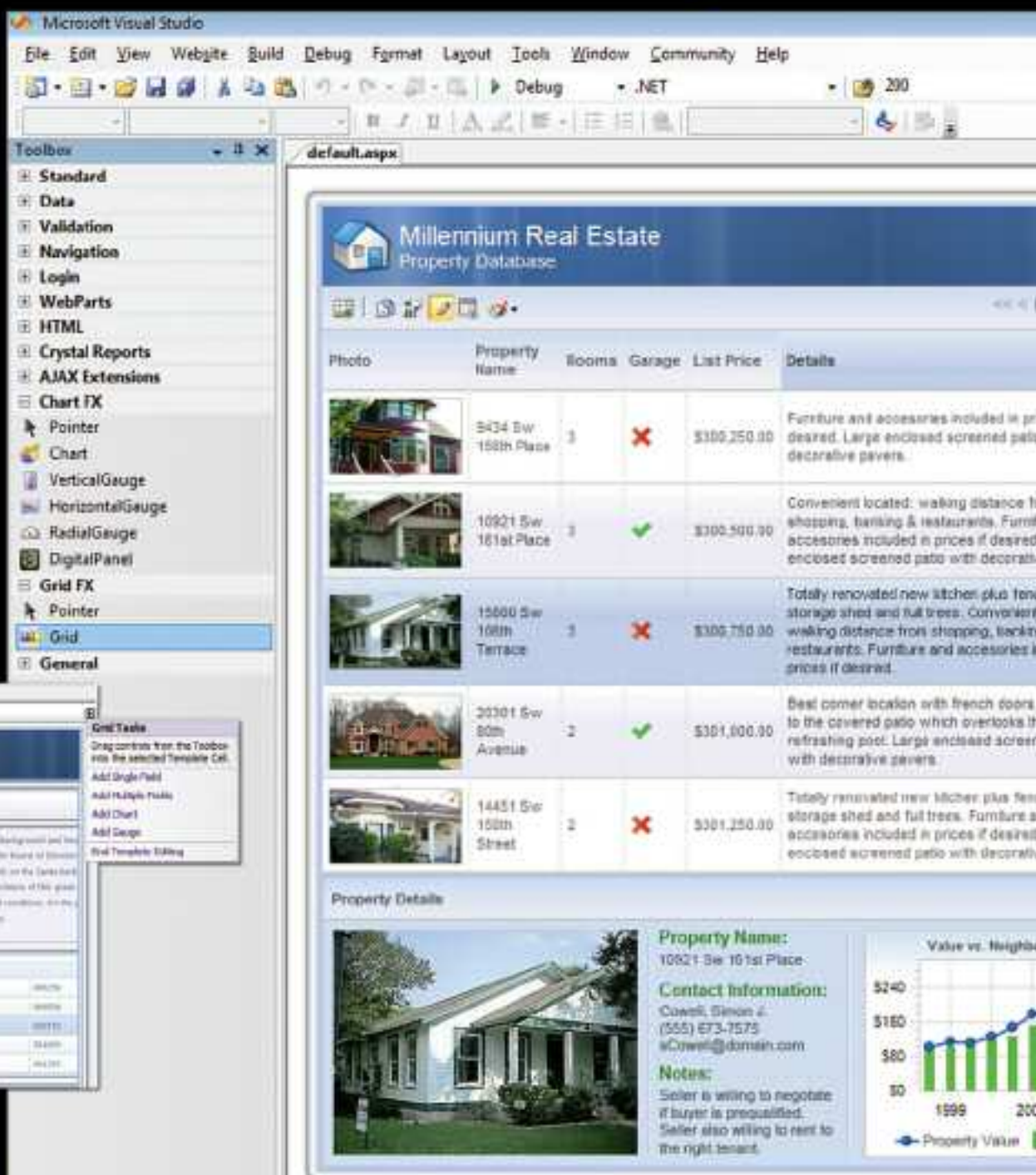
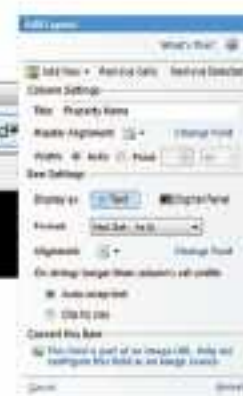


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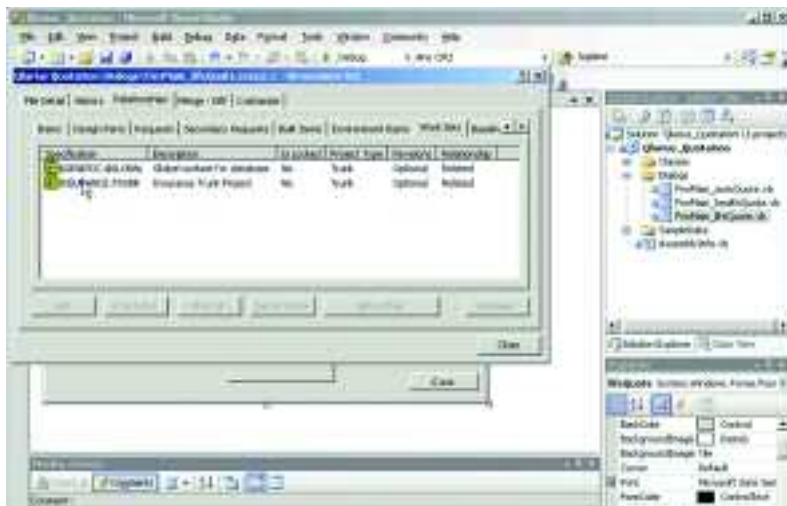
BY JEFF FEINMAN

Serena Software has a new software configuration management tool that offers users native platform support and integration with leading IDEs.

Dimensions Express, which was released in early October, is aimed at easy use and deployment by leveraging the technology of Serena's Dimensions 10 suite.

David Parker, director of product marketing at Serena, said that Dimensions Express targets both developers and managers. For developers, Dimensions Express' SCM functionalities do not intrude on productivity, he said. "At the same time, it still delivers the functionality that the manager needs. It delivers on his requirements of control, visibility and audit trails."

Dimensions Express can track and authenticate version control as developers make changes to source code so that



Using Dimensions Express, developers can review differences between assets on their desktop and in the repository, in order to clear up any conflicts.

they can revert to previous configurations. With item- and project-level branching and merging, Dimensions Express can help facilitate parallel development.

Dimensions Express was designed to be implemented easily and put into production quickly. The tool is configured with a best-practice process model, and customers can implement the

product with remote installation assistance or with on-site consulting.

"We believe we're right at the forefront of performance," Parker said. "I'm not sure that we're absolutely the fastest SCM tool on the market, but if we're not, we're pretty close. One of the examples of the tool's speed is in library caching, which reduces network chatter and makes geographically distributed development from a single repository a realistic model for doing development."

Another benefit to Dimensions Express is its delivery of standalone software configuration management. This gives companies a way to address their immediate requirements, and position themselves for a more inclusive approach at a future date.

The company is positioning Dimensions Express for midmarket users in

terms of price and speed of delivery. Parker said he feels that Express users in the midmarket would consider other tools from Serena. "Dimensions Express is kind of the on-ramp to the Dimensions platform," he said. "Once they get onto Dimensions Express, deploying full-scale SCM, including change management and build and release management, is basically a flip of the switch."

HOW APPS BEHAVE

In addition to Dimensions Express, Serena was expected to release in late October a tool called Prototype Composer, a simulation tool to help business people prototype an application. The tool, which was previously part of Serena's Dimension offering, will be available for free from Serena's Web site.

"It allows someone to simulate application behavior, and by that, I don't mean the back end and the architectural behavior; I mean the user behavior," said Kelly Shaw, a strategic research analyst at Serena. "Rather than writing up a document, I can import information into Prototype Composer so I can see the screens and make the changes that I want. As a business analyst, I can sit down with IT and show them a running prototype of how I want this to act. I can interact with the prototype so that IT and I walk away really understanding on a very deep level what this application is supposed to do." ■

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Flash Makes Crystal Reports Dance in Newest Iteration

BY ALEX HANDY

For the newest version of Business Objects' Crystal Reports, the company focused on improving the experience of both the developer and the end user.

For the end user, the 2008 release includes new visualization options that can transform data into colorful Flash-based charts and graphs. The new ability to embed Flash into reports allows developers to make their charts move, become animated and morph into one another on the fly, during presentations or just inside of an e-mail.

James Thomas, vice president of marketing for business intelligence content and tools at Business Objects, said that Java developers have gotten more attention in version 2008 as well.

"We've always had a strong .NET development component within the product line. This time, we spent more time with Java so you could integrate Crystal Reports into Java applications," said Thomas.

Web services have also received some attention in version 2008. "From the developer perspective, the whole area of consuming and integrating using Web

services has been improved. We've had XML drivers in the past, but we've put in a much better consumption experience for XML. We added the ability to export XML and to create composite applications," said Thomas.

Also added is the ability to embed Flex code in a report so it can be put into some other workflow with just the click of a button, Thomas explained.

Crystal Reports 2008 will be available on Nov. 16, according to the company.

NEW ECLIPSE TOOL, CERTIFICATION

SAP, which announced the acquisition of Business Objects in early October, donated the Advanced Memory Analyzer to the Eclipse Foundation at its Tech Ed '07 Conference in Munich, Germany, in mid-October. The tool allows Java developers to explore how their applications handle RAM usage, and can be used to optimize performance.

SAP also announced that it would begin offering certifications in enterprise architecture. The program offers role-based training programs to educate developers as to how to plan and implement large-scale applications. ■

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CA Hones in On Vulnerabilities

BY JEFF FEINMAN

CA is trying to do more than just patch up security vulnerabilities.

In early October, the company announced a beta version of its CA Security Vulnerability Manager (SVM), a tool that helps organizations identify vulnerabilities in software and configuration settings.

"A lot of times, the immediate thought when it comes to vulnerabilities is, 'Why not fix them all?'" said Peter Stapleton, director of product marketing for CA. In reality, he noted, it's not always that simple. "All of these are things that become part of a change management system; they have to be tested and reviewed, so organizations really have to prioritize their effort. They have to determine what will...protect their organizations against risk."

CA SVM uses an asset inventory service that provides an organization with

details on its software assets. It can correlate asset data with CA's vulnerability database.

Using the CA SVM tool, an organization can either schedule scans or run them manually from the management system. Assets can then be grouped, and their risk levels can be determined.

Organizations can use the tool to compare security configurations of their operating system to industry standards, corporate compliance policies and best practices. Stapleton noted that the myriad ways in which modern operating systems can be improperly configured made this especially useful.

With CA SVM, organizations can specify a value that reflects the risks associated with exposure of critical assets. CA's own research team works to discover and publish vulnerabilities, and SVM is updated automatically by a feed from CA's database. ■

Teradata 12 Features Revealed

BY P.J. CONNOLLY

The clock struck 12 for Teradata, but this time, it was cause for celebration.

That's because Oct. 8 marked the launch of Teradata 12, which was expected to be generally available at the end of October. A number of changes designed to improve performance are in the database itself and with the companion tools and utilities; as chief development officer Scott Gnau claimed, customers "can achieve up to a 30 percent performance improvement over previous versions."

The new release incorporates a new feature Teradata calls "multilevel partitioning," which allows the database to be partitioned by multiple attributes and reduces the amount of data to query. This builds on the self-managed partition primary index, which Teradata

introduced in 2004.

Teradata 12 also adds event-driven automation to make a system more responsive to changing workloads. It allows the prioritization of requests by business priority or service-level agreement, instead of simple first-in-the-queue task ordering.

The new Teradata Optimizer works both to efficiently route data requests within the database, and to simplify "spaghetti code" in queries and reports.

Teradata 12 runs on the Teradata 5500 Server, which the company claims uses 75 percent less electricity than a comparable system of three to five years ago. According to Teradata, the kilowatt-hours this saves are the equivalent of the yearly electrical consumption of 40 U.S. households. ■

ZOHO LAUNCHES ONLINE DATA APP

BY P.J. CONNOLLY

Developers writing applications with Web-based deployment in mind have a new weapon in their arsenal. Advent-Net's Zoho division in early October released Zoho DB, database and reporting tools with an online twist.

Zoho DB uses a spreadsheet-like interface for simple data manipulation and navigation, and allows drag-and-drop analysis and reporting, with SQL querying of a variety of database management systems. The initial release works with IBM's DB2, Informix,

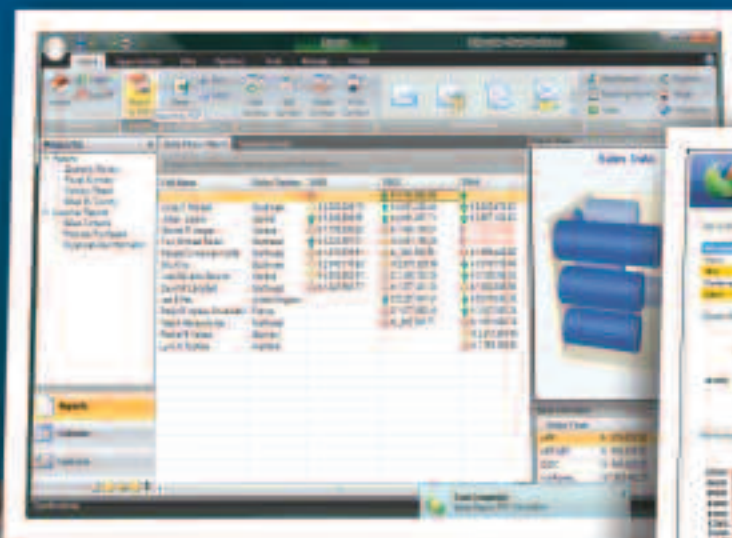
Microsoft's SQL Server, MySQL, Oracle, Sybase and PostgreSQL, or any system that understands ANSI SQL.

As one would expect from a modern data analysis package, Zoho DB allows the import and export of data from a variety of spreadsheet formats, and visual analysis features include the ability to create charts, pivot tables, summary views and table views. Databases, tables and views can be shared in read-only or read-write modes.

The company describes Zoho DB as being more focused on data analysis than its Zoho Creator user interface designer. Nevertheless, appearances matter: Zoho DB is touted as allowing developers to embed slick reports into a Web site with a simple copy and paste. ■

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EXI Means More Efficient Use of XML as Binary

◀ continued from page 1

option before, due to its inherent performance overhead. Satellite transmissions are one example of a case where a binary XML data stream would be noticeably more

cost-effective than conventional XML, he noted.

Schneider described EXI as a very efficient Web data format that accelerates anything using XML today. In particular, it makes Web services data

smaller and faster to process than plain text XML. EXI has a smaller data representation than conventional XML with data compression or previous binary XML specifications, and it simultaneously elimi-

nates bottlenecks of bandwidth and processing speed, he explained.

"It is unlike data compression, which has overhead associated with it," explained Schneider, whose day job is as

CTO of AgileDelta, which makes XML parsers. "XML is verbose and inefficient; [EXI] streamlines all of [the processing] with the minimal size representation of XML information possible," said Schneider. "We want to make it competitive with hand-optimized binary formats."

Schneider touted EXI's performance over hardware-accelerated, but still textual, XML. "There are people out there that are buying XML accelerators and hardware to speed up XML processing. It can get two to three times faster with hardware, but it generally doesn't do anything for bandwidth. When W3C tested EXI, it was, on average, 12 to 14 times faster than processing normal XML."

NOT THE ONLY ANSWER

Schneider admitted that EXI is not the only answer to the cries for a binary XML format: "For years, there has been a fractured community of about 20 different formats for [industry] niches," he said. "W3C is not a rubberstamping organization. They looked at use cases and wanted a single solution for a broader set of problems; they want to make sure that they are creating the standard."

Other attempts at binary XML, he claimed, have not achieved the level of efficiency or simultaneous bandwidth and processing speed optimizations that EXI has.

The EXI Working Group is presently in "mid-mix," writing best practices for using EXI and other supportive information, such as tutorials, according to Schneider. While the W3C's objective is to finish up the specification this year, Schneider said that it would probably be sometime in 2008 when EXI is actually approved.

Schneider predicted that when EXI is finished brewing, it will "eliminate any excuse for not using XML."

EXI, however, does not oblige using any new schema or code rewrites. It is embedded at the lowest level of the XML stack in the parser or serializer, directly in the Web server being used, said Schneider. ■

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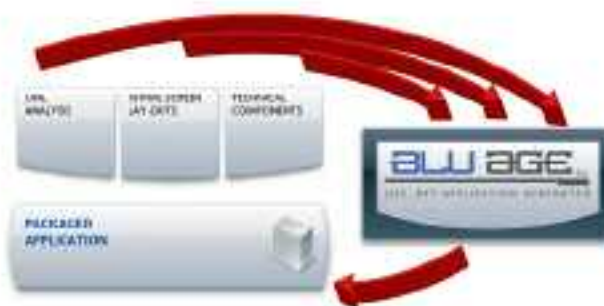
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SOAPscope Bubbles Up Into Quality Center

BY DAVID WORTHINGTON

Many QA teams have standardized on HP Quality Center to automate testing and manage and govern quality processes. Instead of reinventing the wheel, Mindreef integrated its SOAPscope Server quality management platform for Web services with the solutions it understood its customers were using.

By way of an add-on that became available in early October, customers can now use HP Quality Center to invoke SOAPscope and Mindreef Load Check to perform Web services testing, in addition to retrieving, reviewing and sharing test results.

A separate command-line interface provides script-based test automation capabilities to SOAPscope. Users can run load checks and test suites from the command line by running a script and can automate tests using third-party tools, includ-

ing SQL Server Agent and Windows Scheduler.

Frank Grossman, president and technology leader at Mindreef, explained that the command-line interface also lends

itself to continuous build process software, such as CruiseControl and the Anthill build management server. Going forward, SOAPscope will be integrated with software that

manages and supports architecture, Grossman added.

"Without the ability to automate SOA testing, the processes and procedures around SOA quality assurance won't provide

the same value," said David Linthicum, managing partner with ZapThink and SOA Watch columnist for SD Times. "The integration with HP Quality Center and new test automation capabilities in SOAPscope Server will allow those charged with testing SOAs to become more effective." ■

Infragistics Adds Vista Controls, XPS Formatting

BY DAVID WORTHINGTON

When developers buy components, they also buy time to focus on business logic. Component vendor Infragistics has updated its line to offer the latest in Microsoft user interface technology and document handling capabilities.

Infragistics announced NetAdvantage for .NET 2007 Volume 3, in early October. The suite's ASP.NET components have improved document-handling capabilities, and it now bundles two additional WindowsForms interface controls that adhere to the look and feel of the Windows Vista Basic shell.

NetAdvantage's ASP.NET components now offer a collection of APIs that enable developers to create documents in PDF and XPS formats, and a document-exporting engine that supports both. The end user may also export to Microsoft Excel, even when that application is not installed locally.

Other Excel-related enhancements in the update enable users to export images, frozen rows and columns, header and footer data, hidden range formulas, and metadata. ■



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Quest Extends Protection To New Microsoft Servers

BY DAVID RUBINSTEIN

Quest Software was happy to learn through a recent survey that people know the company first and foremost for its identity management tools. In that vein, Quest plans to release two new products in the fourth quarter, dubbed Privilege Manager and Safe Keeping, along with a host of initiatives for the Microsoft platform.

Privilege Manager is designed to define permissions on Unix servers, while Safe Keeping will handle password issues and management, according to Christopher Wells, director of product marketing at Quest. Both products are built on technology from PassGo Technologies.

But Quest is also known for its data tools, and in October released Toad Data Modeler 3.0. Among the new features are the ability to generate SQL scripts with "alter" commands to synchronize the data model and database, and wizards for assisting in the comparison and merger of models. This enables users to sync up separate models, as the key differences between them are presented in a visual way.

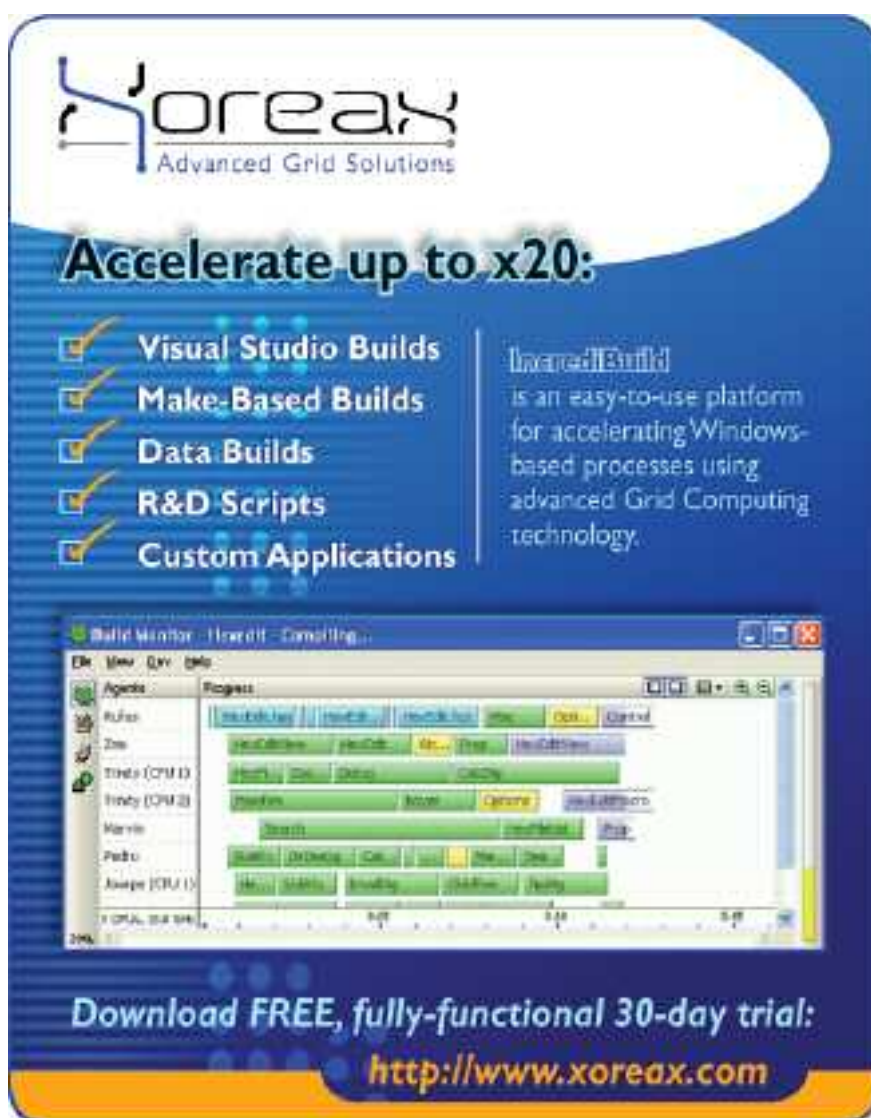
The company also plans to integrate two of its data recovery tools with Microsoft's System Center Data Protec-

tion Manager (DPM) backup tool; Microsoft is expected to launch Data Protection Manager in mid-November at its Tech Ed IT Forum in Barcelona, Spain. Recovery manager tools for Active Directory and Exchange Server already have integrations with DPM, which is not due for release until 2008. At press time, Quest was still working on integrating its recovery tool with the latest version of SharePoint Server.

Quest is also rolling out diagnostic, reporting and testing tools for Microsoft's recently announced Office Communication Server 2007. MessageStats Report Pack is a module of the Quest tool that will provide information on the quantity of messages, file transfers and VoIP crossing channels, while Password Manager will provide self-service password reset capabilities for the new Microsoft Speech Server 2007.

"Our strategy is to fill the gaps in Microsoft tools," Wells said.

Quest is tied tightly to the Microsoft platform, and recently held the first-ever Quest Connect Users Conference in Redmond, to teach customers how best to take advantage of the Quest tools on the Microsoft platform. ■



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IBM Makes Its SOA Test Bed

Offers free guidance for SOA deployments

BY DAVID WORTHINGTON

IBM is called "Big" Blue for a reason. With a breadth of customer experiences to draw on, the company is sharing some of its knowledge with developers who are planning to adopt a service-oriented architecture.

In early October, IBM opened up its "SOA Sandbox" test bed at its developerWorks Web site. SOA Sandbox targets architects and developers with free architectural guidance, best practices on leveraging legacy and packaged applications in SOA, a decisions guide for creating reusable services, a quick start guide with instructions on how to install IBM's core SOA software, sample code and technical white papers.

Sandy Carter, IBM's vice president of SOA and Web strategy, said that the company performed "deep dives" into adoption styles, with five separate moderated focus group studies. There is a big focus on the adapter area message broker, she said, because customers have heterogeneous software that otherwise doesn't play well together.

The SOA Sandbox also hosts trial versions of IBM products, which are available as either services or downloadable trial software. The catalog includes

Rational Software Architect, Rational Tester for SOA Quality, WebSphere Application Server, WebSphere ESB WebSphere Integration Developer, WebSphere Portal, WebSphere Process Server, and adapters for Oracle and SAP applications.

Since this is the Web 2.0 era, IBM has packed new Web application interfaces into WebSphere. WebSphere Application Server Feature Pack for Web 2.0 is compatible with both REST- (Representational State Transfer) and SOAP-based application design approaches.

Simultaneously, the company introduced IBM Optim, a new data governance product offering with roots in technology IBM acquired by purchasing Princeton Softech. Optim captures data at the business record level to ensure the integrity of business information in a SOA environment, and has facilities to de-identify confidential client and employee information.

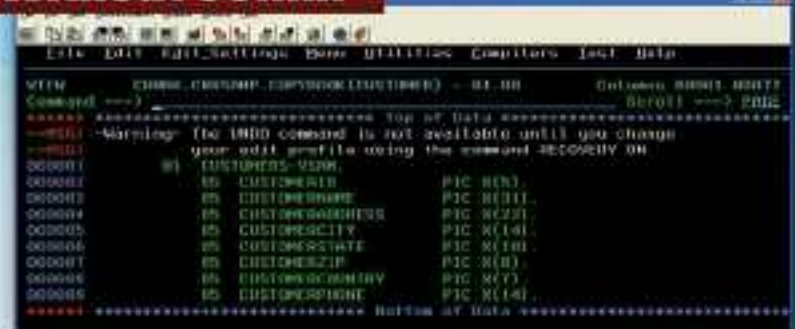
IBM also announced that it is updating Rational Asset Manager, Rational Performance Tester Extension for SOA Quality, Rational Tester for SOA Quality, and WebSphere Service Registry and Repository, to better support its governance environment. ■

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Microsoft Gives View Into

◀ continued from page 1

scenario. "We did not want to hold up the release," he said.

According to Chiesa, developers will benefit from looking at the code and learning how best to use .NET, especially in high performance, highly concurrent applications.

Chris Menegay, a principal consultant for Notion Solutions, said that he thought it was "huge" that Microsoft was opening the .NET Framework source code and that developers have asked for it for a long time.

"Often, a developer will be debugging their code and strange things are

happening that are hard to understand. Being able to step into the framework and find out why things are working the way they are will allow developers to resolve their issues more clearly. This is also huge when the documentation for the framework is wrong or lacking, and you need to figure out how to use the interfaces," Menegay noted.

Jon Rauschenberger, chief technology officer of Clarity Consulting, said, "While it isn't a common use case for developers to have access to these details, it can be severely limiting in specific scenarios, and previously we had no reasonable recourse to get the required

Open Source Initiative Approves Microsoft Licenses

BY DAVID WORTHINGTON

The Open Source Initiative (OSI) board on Oct. 16 approved the Microsoft Public License (Ms-PL) and the Microsoft Reciprocal License (Ms-RL) for inclusion in OSI's library of officially sanctioned open source licenses.

The deliberation did not take long: Microsoft submitted the licenses for consideration and review a little more than two months previously, on Aug. 10. OSI acting president Michael Tiemann explained in his official blog that the decision was informed by an overwhelming—yet not unanimous—consensus from the open source community that the licenses satisfied the open source definition.

Tiemann remarked that the spirit of the discussion followed established policies and procedures. "The formal evaluation of these licenses began in August and the discussion of these licenses was vigorous and thorough. The community raised questions that Microsoft answered."

Despite his assurances that Microsoft had not received special treatment, Tiemann, who is also vice president of open source affairs at Red Hat, has been on the receiving end of a backlash. Tiemann reported that he had been sent more than 400 e-mails critical of OSI's decision.

Yankee Group research fellow Laura DiDio dismissed the notion of favoritism altogether. "Do I think OSI would have pushed it through? No. Microsoft will be scrutinized and analyzed to death. You'd have to be supremely stupid to try to pull a fast one when all eyes are watching you."

DiDio acknowledged that the decision may not be popular in all quarters, but quipped, "If you are claiming to be open, you cannot be open by being exclusionary." She added that Tiemann did issue a warning to Microsoft at the onset, to think twice about any covert

plans or cute experiments in producing royalty-bearing open source code.

OSI founding board member and former president Russ Nelson called Microsoft's motives into question on his own blog, stating, "How can they be attacking Open Source projects on one hand, and seeking not only to use open source methods, but use of the OSI Approved Open Source trademark? Nobody knows for sure except for Microsoft."

DiDio said that both Microsoft and many open source software vendors (through service and support) are in the business to make money. "Microsoft realizes that open source is not going away; they are pragmatic: 'If you can't beat them, join them.' They can cooperate but also compete."

By the same token, DiDio noted that the open source community has to recognize that Microsoft is not going away. "It's a reality that you have to live with, and customers are demanding integration and interoperability. Open distributions also have to be more open to working with proprietary vendors for the common good of their users. They have to be pragmatic too," she added.

Jon Rosenberg, the director of source programs at Microsoft, said Microsoft would distinguish between its Shared Source Licenses that meet the open source definition and those that do not, based upon the feedback it receives. Currently, the Microsoft Limited Community License (Ms-LCL), Microsoft Limited Permissive License (Ms-LPL) and Microsoft Reference License are not sanctioned open source licenses.

"I think you're going to see a lot of great code come out under these two open source licenses and we are happy to be able to call them 'OSI Approved,'" he wrote for his Port 25 blog, at Microsoft's TechNet Web site. ■

Debugger

details in those cases.”

Rauschenberger added that, as a company focused on delivering business solutions for the Microsoft platform, Clarity Consulting was excited about the impact Microsoft's decision may have on its business. He sees the decision as having a positive impact on Clarity's ability to convince customers that may have been reluctant to build on .NET to revisit their decisions.

ONLY REDMOND KNOWS

When asked why it took Microsoft so many years to share the source code with a wide audience of developers, Chiesa replied that Visual Studio itself needed to be changed to allow developers to step into a lower level of the .NET Library. “It takes time to build those sorts of things.”

Laura DiDio, a senior analyst with the Yankee Group, had a simpler explanation: Microsoft simply overlooked it. “Microsoft is a huge company, but even a huge company can only have so many top priorities in a given year. The fact is that they did it, and it is complex stuff—an invaluable resource.”

DiDio believes that customers would have wanted access before now, because seeing the source code provides them with more control and granularity to build better applications and speeds time-to-market.

“It's good to have these things at your fingertips—why they didn't do it, I have no idea,” she said. “Microsoft has always paid close attention to the developer network. I don't know why they would not give them every tool possible to do their job.”

Gartner vice president Mark Driver was also surprised that Microsoft did not make the code available before now, cit-

ing programming issues that call for access to the .NET source code. “Perhaps their UI technology and debugger is just now catching up with their ability to do that,” he said.

As to any potential hidden agendas behind the move, Driver commented, “I don't see anything between the lines.” He speculated that Microsoft simply might not have been satisfied with the quality of the source code. “You open up an awful lot of discussion points when you start showing people your code, and you have to be fairly comfortable with it.”

Dave Rosenberg, CEO of open source company MuleSource, which deals with open source licenses, derided Microsoft for what he called its “bogus ‘look but don't touch’” open source behavior. “It's shortsighted and pointless [not to allow people to build more .NET libraries], almost like an April Fools' joke.”

Microsoft's Chiesa said that the Microsoft Reference License gives the details on its accepted use before developers use the feature, and noted that services and technical support are available for developers.

Clarity's Rauschenberger believes the license is entirely appropriate for the scenarios Microsoft envisions. “They intend to continue retaining ownership and responsibility for servicing and enhancing the Framework moving forward, so it is understandable that it is a read-only license for the source code.”

However, that explanation came with one caveat: Rauschenberger thinks that it would benefit both Microsoft and the community for the company to provide more access for submitting and reviewing bug fixes and platform enhancements.

“It feels like there is an opportunity to harness the collective intelligence of the development community to make the platform better moving forward,” he added. ■

Oracle Makes Bid for BEA

◀ continued from page 1

friendly transaction as soon as possible.”

Addressing the concerns of BEA's customers, Phillips vowed that Oracle would protect their investment for years to come, citing the PeopleSoft and Siebel acquisitions as precedents. He added that the increase in engineering resources would accelerate the development of middleware technologies.

BEA spokesperson Kevin Hayden did not respond to requests for comment. The company has struggled since 2006 to sort out issues relating to stock option grants, and has repeatedly missed deadlines for quarterly and annual reports.

Oracle has made 35 high-value strategic acquisitions since 2005. If it completes its purchase of BEA, the total investment for those transactions will exceed \$31 billion. Over the past year, it was announced that Oracle would

acquire Agile Software, as well as the intellectual property of AppForge, Bharosa, Bridgestream, Hyperion Solutions and Netsure Telecom.

Oracle's offer to buy BEA “helps their middleware story relative to IBM,” said RedMonk analyst Stephen O'Grady. “Although BEA's WebLogic had been eclipsed by WebSphere in terms of market share and suffered at the low end to alternatives such as JBoss, the product is generally well regarded and holds important ground in enterprise architectures,” he added.

RedMonk co-founder James Governor speculated in his blog that it may be a move to hold off SAP, arguing “Oracle can't afford for BEA to fall into SAP's hands.” SAP announced on Oct. 7 that it is planning to acquire Business Objects for the equivalent of roughly US\$6.8 billion. ■

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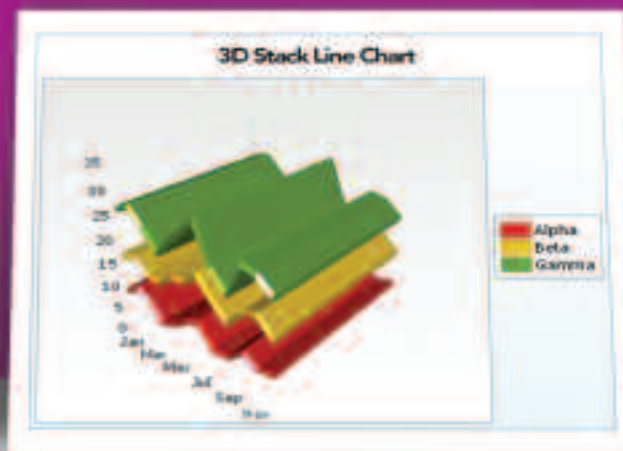
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Analysis Tool Leads Off ARM Developer Confab

BY P.J. CONNOLLY

At the fourth annual ARM Developers' Conference in Santa Clara last month, new analysis tools, cores and partnerships took the stage.

First, the company announced the launch of RealView Profiler, a tool designed for nonintrusive performance analysis and real workload coverage. ARM claims that it can reduce ROM requirements by 20 percent, and improve performance by the same amount. RealView Profiler provides information on code efficiency, CPU interlocks and unexpected instruction delays, with low-level views mapped to the source code and annotated with

performance data.

RealView Profiler is an Eclipse plug-in, and supports both hardware profiling with the RealView Trace 2 data capture unit, and virtual profiling with RealView's Real-Time System Models.

The first release of the tool will work with the company's Cortex-R4 processors, as well as the ARM926EJ-S, the 1136JF-S and the 1176JZF-S; support for others is expected within months.

ARM also announced the availability for licensing of its latest Cortex-A9 processors in single- and multicore versions. The A9s are compatible with the rest of the Cortex family,

and use a dynamic length, 8-stage superscalar, multi-issue pipeline with speculative out-of-order execution; ARM claims the new processors can crank through four instructions per cycle at a clock rate in excess of 1GHz.

ARM RealView developer tools support both processors, although cycle-based and programmer's view models for use with RealView will not be available until spring 2008.

According to the company, the Cortex-A9 MPCore processor supports system-level coherence with accelerators and DMA, further increasing performance and reducing

power drain. It is the first ARM processor to combine the Cortex architecture with multiprocessing capabilities.

ARM is positioning the single-core version of the A9 for feature phones and other low-cost embedded devices, at a cost and power budget similar to that of the ARM11 family.

ARM also revealed that it will partner with six companies to develop a standards-based platform built on Linux, Gnome Mobile and Mozilla Firefox, to run on ARM architecture SoCs (systems on-chip). The partners are Marvell, MontaVista, Mozilla, Movial Creative Technologies, Samsung and Texas Instru-

ments, and reference boards were demonstrated at the conference.

The Linux Mobile Computing Platform will be released as open source; ARM and its partners in the Linux Mobile Computing Platform expect to release the full-blown platform early in 2008, with devices coming to market about a year later.

"By stepping up the collaboration among key stakeholders in the mobile market," noted ARM sales and marketing executive vice president Mike Inglis, "we will be able to jointly deliver the devices and applications with the cutting-edge innovation consumers have come to expect." ■

Training, Testing Focus of MontaVista Conference

New Web evaluation platform, open classes announced at show

BY P.J. CONNOLLY

Interoperability, training and a new approach to evaluating platforms were on the menu at MontaVista Software's Vision 2007 Embedded Linux Developers Conference, which took place in early October in Santa Clara.

On the opening day of the conference, MontaVista announced that it had joined the SCOPE Alliance, an association of network equipment providers dedicated to the development and promotion of open, carrier-

grade platforms based on commercial, off-the-shelf technology.

The remaining news focused on the terrible Ts of training and testing. First, the company revealed that it has opened its embedded Linux training classes, formerly reserved for MontaVista customers, to the public.

These sessions take place in Santa Clara and include three multiday sessions for MontaVista Moblinux and both the carrier and standard editions of MontaVista Linux; a course

designed for managers new to Linux is also available, as well as custom on-site classes.

The company also announced that it has launched MontaVista TestDrive, which allows embedded Linux developers to test their applications using MontaVista Linux on a variety of processor architectures.

MontaVista TestDrive is a hosted Web service that uses Virtutech Simics for the underpinnings and MontaVista's DevRocket IDE for the front

end. It offers the use of virtualized systems based on the ARM, Intel x86, MIPS and Power processors.

"TestDrive is the first evaluation system to combine Linux and virtual platform technology," claimed Jim Ready, CTO and founder of MontaVista, in a prepared statement. "The developer gets a fully provisioned environment. He doesn't need to download and install a lot of software. He doesn't have to buy the hardware." ■

SPARX ENTERS UML MARKET IN REAL TIME

BY DAVID WORTHINGTON

Source code is very detailed, and today's embedded systems can be so complicated that developers' brains can fill to the brim trying to understand it. Worse still if the person that wrote it is inaccessible. Real-time Unified Modeling Language (UML) is a higher-level alternative to raw source code, in the absence of the developer.

Sparx Systems announced in September that it is entering the real-time and embedded software markets. A beta version of its extended real-time modeling solution is expected to be unveiled by the end of this year.

The real-time solution is an extension of the UML support in Sparx's Enterprise Architect 7 modeling environment. It adds standard profiles for performance, scheduling and time to capture performance and time-related aspects of systems in design.

Enterprise Architect will use Model Driven Architecture transformation technology to transition models into executable code.

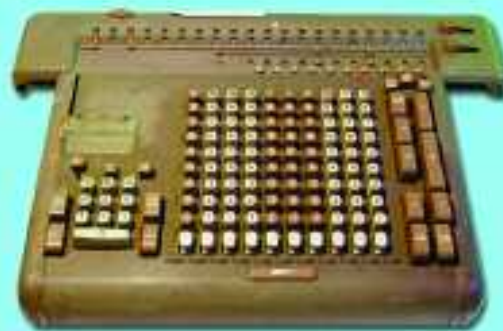
"Our technology for real-time UML will provide some exceptional productivity enhancements," said San Mancarella, chief technology officer of Sparx, adding that the goal was to give hardware and software teams a shared view. ■

HANDHELD CALCULATOR AT 40

In 1967, Texas Instruments filed a patent for a handheld electronic calculator. Forty years later, high school students are required to use calculators that have more processing power than existed in the entire world in 1967. But TI didn't revolutionize calculation by itself. Many other machines came before and after its diminutive digital marvel.



The readout portion of a gunnery calculator used by the U.S. Navy during the early Cold War.



This Friden calculator is entirely mechanical. It's difficult to date this device, but it is likely from the mid-1950s.



Wang's 600 series of programmable calculators arrived in 1972, and could compute logarithms.



A simple change to the circuits inside a TI calculator produced 1977's Kosmos 1 Biorhythm Calculator.

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Turn and Face the Strain

Ch-Ch-Changes

Coping with quick changes is difficult even as CM systems evolve

BY CAROL WEISZMANN AND SUSAN MESSENHEIMER

The roles of software configuration management (SCM) and change management (CM) are broadening quickly.

"Software projects are getting bigger, more complex and are built of more and more pieces," observed Mike Saha, senior release manager at Salesforce.com. "Almost all organizations are striving to reduce time-to-market and push releases out faster to keep pace with customers' thirst for innovation and functionality. Not to mention keeping a leg up on the competition."

Then there's the heterogeneity typical of most IT shops—different hardware, operating systems, databases, Web servers and the like. "Companies seek to control and manage changes to the infrastructure elements and the applications that run on top of that infrastructure," said David Parker, director of product marketing at Serena Software.

In addition, as Neuma Technology president and CEO Joseph Farah pointed out, there are pressures created by the accountability mandates of various regulations and the impacts of agile methodology, which demands rapid iterations and continuous integration. "Each iteration has to be well defined and tied into the change management system, both to ensure accurate marching orders and to allow accurate risk assessment," Farah explained. "Agile also entails rapid resolution to any problems that creep into the product. To do this requires a good level of traceability of the changes: when and why they were performed and by whom."

That's not all. Software development is quickly becoming a cross-enterprise, cross-continent and cross-cultural activity. "This means," noted Corné Human, product marketing manager for change management solutions at Borland Software, "that organizations need a holistic strategy for activity and asset management performed in a distributed development environment."

WHAT'S HAPPENING TO SCM?

"The software industry is growing up," said Tom Carozza, director of strategy at



Photo by Stuart Miles

Seapine Software. "Computing power has become so cheap and ubiquitous that the old problems of squeezing every last bit of efficiency from code are more or less gone. The new slow point then becomes the process, not code execution—so that's where most of the attention is being focused now."

As part of this focus, there have been attempts to standardize on a single solu-

tion for both software configuration management and change management, melding them into a single software change and configuration management (SCCM) solution. This, writes Jeffrey Hammond, senior analyst with Forrester Research, has turned out to be more ideal than reality.

Why? Because many shops use multiple SCM tools to meet the needs of

their heterogeneous environments. Simpler, less costly branch-and-merge tools such as Microsoft Visual Source Safe or the multiplatform Perforce are effective for small-team projects. Large development teams working in parallel and often remotely benefit from stream-based tools such as IBM Rational ClearCase or AccuRev, which automatically allow inheritance of changes between branches and intuitively model parallel development with independent, customizable workflows. Meanwhile, those opting for open source will end up with open source SCM tools such as Subversion or CVS.

Thus a one-stop SCCM solution remains fairly rare; instead, Hammond explained, some shops are trying to integrate multiple SCM tools with a single change management tool in what he described as "heterogeneous SCM"—a path that "secure[s] many of the benefits of a standardized SCCM solution without incurring the pain associated with SCM tool migration."

ONE-STOP SHOPPING LIMITS

Davy Hua, SCM architect and engineer at biotech firm Thermo Fisher Scientific and sometime blogger (www.AllSCM.com), is one of those unimpressed with one-stop shopping. "Vendors of SCM tools are slow in keeping up with the more intense and customized usage," he said. "I believe this is one of the major factors that have fueled the growth of the open source movement, and, more specifically, open source SCM tools."

Indeed, the more complex change management tools become, the more IT shops need to customize. "This does lend itself better to the open source model, where companies can customize a base set of capabilities to their needs," concluded Tim Budden, vice president of engineering at software engineering services firm Avista.

Hammond also embraces Hua's criticism—but only up to a point, noting that some software companies are increasing investment in integration APIs and cus-

continued on page 44 ►

Coping With Quick Changes a Challenge

◀ continued from page 43

tomization capabilities. Hammond pointed to AccuRev, Microsoft, MKS and Serena as examples of companies working to open up their SCM and change management tools to

make them easier for developers to customize.

CM tool vendors are stuck in something of a quandary, according to Budden. "Agile support is one set of capabilities, but you also have issues of

workflow management, release management, project dashboard concepts, requirements management, test management, etc. I view the CM system as part of the platform upon which many other capa-

bilities can be layered."

Nigel Chanter, chief operating officer at Perforce Software, sees nothing wrong with a suite approach, in principle. "However, in practice, no company has yet created a superla-

tive suite of tools," he said. "The majority of suites are comprised of disparate technologies cobbled together through acquisition. On the plus side, you do get the satisfaction of being able to complain to just one company."

Not everyone thinks an open framework with plug-in tools is the way to go, despite the heavy workflow dependencies of many proprietary tools that make them a closed framework.

Neuma Technology's Farah suggested a next-generation repository and process-modeling engine with a common user interface. "A single, easily customized user interface can continue to evolve while supporting all existing components of the application life-cycle management framework," he contended. "An open source framework will only work if it has the same flexibility, next-generation repository capabilities and user interface capabilities demanded of a third-generation system."

Serena's Parker cited the limits of agile development methodologies, which assume that teams are small, collocated and independent. These days, though, it's just as likely that development teams are geographically distributed, working on interdependent projects, and possibly using different development and project management practices.

"Enterprises must learn how to coordinate multiple interdependent projects following different methodologies—and still provide strong governance and traceability across all projects," Parker maintained. "The key is to define common values and metrics that are independent of methodology, and apply these values and metrics to each development team. This will require changes throughout the business, not just in application development."

BEST PRACTICES

So what best practice advice can be offered to developers and their managers? Quite a bit, it turns out:

- View change management as an integrated approach to managing any change from any credible internal

continued on page 46 ▶

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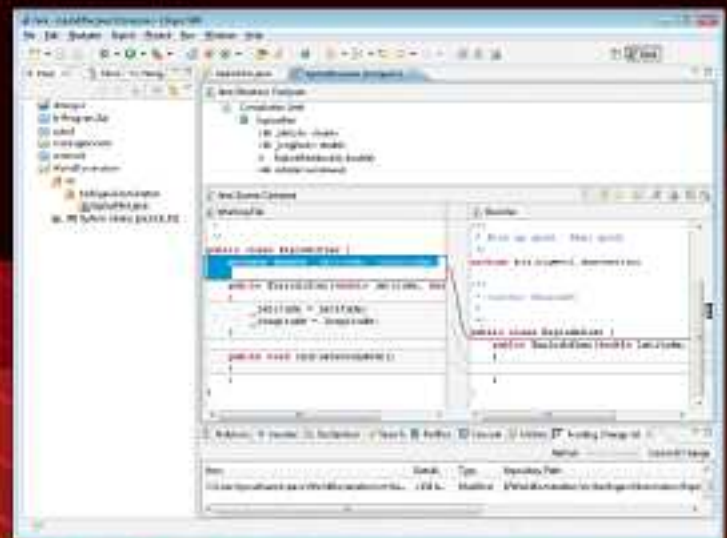


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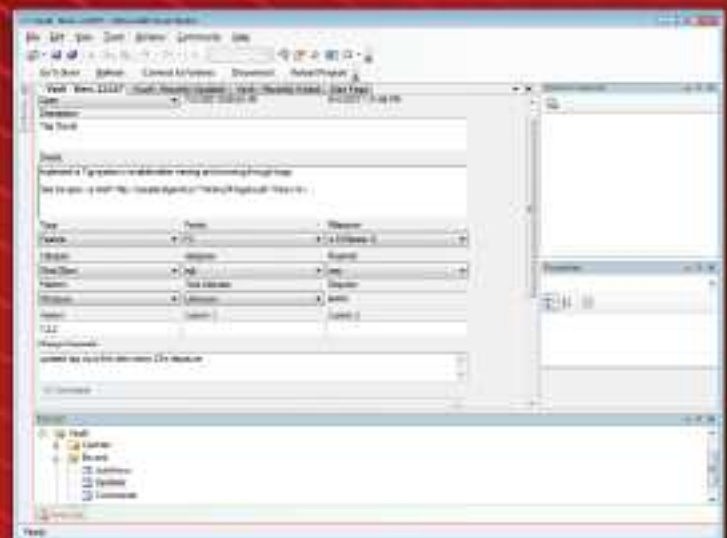


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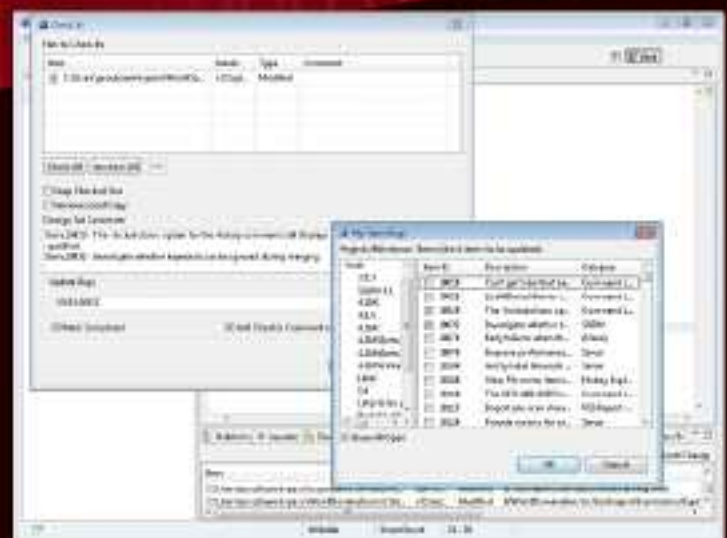
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Facing Up to the Strain of Quick Changes

◀ continued from page 44
or external source.

- **Carefully consider what your long-term SCCM strategy will be.** Are you a standalone SCM shop, do you want to implement a standardized SCCM solution, or would a heterogeneous SCM solution be the best course?
- **Implement a consistent SCM process across all teams.** This enables unified reporting, metrics capture, subsequent decision support and asset reuse.
- **Integrate processes, supporting tools and automation to drive the change management process.** All project work—asset, change and project and portfolio management processes—must be managed in an integrated fashion. This includes work that was part of the original plan, and work that is the result of replanning due to change.
- **Manage so that your development teams are always responsive to change.** Policies and practices should reflect this.
- **First optimize your processes, then choose the tool/vendor that best fits your processes.** Automating suboptimal processes and institutionalizing poor practices is costly and

counterproductive.

- **Make sure your tools are flexible enough to model your processes.** An enterprise should not be forced to modify the way it does business to fit its tools.
- **Configure your workflow to how you need to work, not how some tool wants you to work.**
- **Make sure your tools can be modified to adapt to your changing processes.** Tools must not inhibit the evolution of enterprise processes.
- **Don't forget about disaster recovery.** SCM/CM is mission-critical, and an abrupt halt will be damaging to the entire enterprise. Understand how your system works and have a DR plan in place that you actually test.
- **Get service-level agreements.** Whether it's an agreement within the IT group regarding server management of the build farm servers, or with the QA group for release management, having such agreements helps to enforce processes and precisely define roles.
- **Track change packages.** Even though each file in a codeline has its revision history, each revision in its history is useful only in the context of a set of related files. Some questions about source file changes can't be

answered unless you track change packages—sets of files related by a logical change. Change packages, not individual file changes, are the visible manifestation of software development. Some SCM systems track change packages for you; if yours doesn't, write an interface that does.

- **Embrace branching, especially if the tool you are using is strong in supporting them.** Snapshots, private workspaces and version-specific branches all allow your team to work in parallel and be fast and innovative. But branch only when necessary: The codeline should be branched when its users need different check-in policies.
- **Use a common base folder structure for all projects.** Thus staff can easily find files, and engineers moving from one project to another know where to look for files without training and hunting.
- **Don't be afraid to configure files—that is what these systems are designed for.** It's OK to have four versions of a file as opposed to two.
- **To support distributed development teams, manage content in a central repository, keeping remote teams up to date in near real time via remote caching agents that serve the local team.** This avoids the

server replication and artificial conflicts among end users caused by time latencies inherent in older, replication-based solutions.

- **To support agile development teams, embrace continuous integration.** This build model is a must for any agile SCM team as the benefit of automation will greatly enhance the team's overall productivity output.
- **To support agile development teams, commit to accurate iteration planning.** Plan only a limited number of projects that the team can realistically finish in an iteration.
- **To support agile development teams, maintain an iteration schedule, the shorter the better (about two weeks to a month is a good range).**
- **To support agile development teams, conduct daily stand-up meetings.** These are meant to resolve obstacles any of the team members may be experiencing quickly and efficiently.

WHAT TO LOOK OUT FOR

Of course there are pitfalls as well. SCM/CM efforts are susceptible to a number of problems:

- **The scope of what constitutes a change is too narrowly defined.**
- **Control and visibility from an overall management perspective is lost** because changes to assets on the project level are not integrally linked to the activities and requests driving the change (whether on the project or portfolio level).
- **Change management processes and project management processes are disconnected.** A considerable amount of the work done on projects, which often affects project assets, has little or no connection to the processes focused on maintaining project control and visibility. Thus the work (i.e., the activities) performed as a result of a change request is not visible and controlled as part of the project plan.
- **Documentation is lacking.** Without proper and detailed documentation, organizations open themselves up for potential problems down the road should the SCM team/person leave the company without giving it enough time to train or hire a replacement.
- **Resources quickly become inadequate.** SCM activities and services can expand rapidly, putting severe strain on both human and equipment resources. The human resources may depart, and the equipment resources will become overloaded, impeding essential business processes and operations.
- **Backup plans have been overlooked.** The ability to reproduce a specific build for audit or bug-fixing purposes is crucial. ■

SOLUTIONS FOR ACCOMMODATING CHANGE

The march to a more orderly change management world is inevitable; the approaches and solutions numerous. We asked several top vendors for their take on the best way to achieve five of the most frequently sought-after problem-solving technologies.

FASTER ITERATIONS

The adoption of iterative development techniques is fast becoming widespread. The issue for many enthusiasts is: Does this mean more control or less is required? Serena Software's view is that far from being process-free, iterative development demands more control. But the trick, according to David Parker, Serena's director of product marketing, is to ensure that this change control is not intrusive. Enterprises must be able to manage and track the task flow and issue backlogs, yet the individual developer's experience of using these tools should be transparent. Serena's approach, said Parker, means a developer working in his or her IDE never even leaves the IDE to use Serena's tools. At the same time, the developer's manager can achieve the control and visibility needed to ensure that the project is on track. Auditors, he added, are happy as well, since compliance is automated.

RAPID DECISION-MAKING

If rapid decision-making is one of your organizational goals, you'll want to make sure you can easily and quickly check the status of, and get the answers to, some key questions, such as, "Is this feature implemented?" or "Has this change been checked in?" or "Have the components in that module been reviewed?" Seapine Software's solution, said director of strategy Tom Carozza, uses a completely customizable workflow that allows users to define it to suit whatever methodology they choose. "The great side effect of this is that it's easy to quickly look and see the status of anything in the system...with a quick visual check rather than a deep investigation."

CODE REUSE AND COMPLEX LICENSING ISSUES

One of the most frustrating tasks for developers has to be tracking code across multiple products. This is further complicated when an individual product is composed of subproducts. The solution embraced by Neuma Technology is to allow code to be shared across multiple products, each tracked in the same repository, said Joseph Farah, president and CEO. Where a product itself is composed of subproducts, Neuma's CM+ will track hierarchical relationships, permitting questions such as, "Where is this subproduct used?"

PRODUCT-LINE MANAGEMENT

To enhance product-line management, solutions should capture and validate project requirements, translate these into tasks that are assigned to individual team owners, and track the tasks throughout the project. As requirements change, the impact should ripple through the SCCM infrastructure. That's the approach Serena believes is the most logical, and it delivers "full traceability, from the capture of the requirement through to the delivery of the ultimate application," said Parker.

COLLABORATION AND COMMUNICATIONS

Major pain points when fostering true collaboration and communication include keeping distributed teams in sync in near time, regardless of location and time zone, and management of online discussion threads. The solution offered by Borland Software's StarTeam is to "make innovative use of remote caching agents," said Corné Human, Borland's product marketing manager, change management solutions. Online discussion threads, for example, are stored as part of the SCM repository alongside all associated assets, such as code and documents.

—Carol Weiszmann and Susan Messenheimer



Introducing Folder Diff, a productivity feature of Perforce SCM.



Perforce Folder Diff

Folder Diff is an interactive, side-by-side display for comparing the state of any two groups of files.

Use Folder Diff to quickly determine the differences between files in folders, branches, labels, or your local disk. This is especially useful when performing complex code merges.

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Folder Diff is just one of the many productivity tools that come with the Perforce SCM System.

FROM THE EDITORS

Don't Feed the Trolls

Here's a free and open idea for a law firm: Provide consulting services for small and medium-sized businesses hesitant to use open source software because of the fear of being sued over a copyright or patent infringement.

With the SCO Group lawsuits fresh in our memories, patent trolls lurking everywhere, and the not-so-veiled threats coming out of Microsoft claiming violation of its patents in Linux, development managers and corporate executives must take extra precautions if they plan to incorporate open source into their own software—or even if they just want to consume such software for internal use.

Suddenly, this is quite a complex issue. As open source software grows in popularity, so does the number of licenses governing various projects, each with its own EULAs, terms and conditions. The risks of inadvertently violating a copyright or patent have multiplied, as have the stakes involved.

In the case of SCO, pursuit of an infringement case that was found to lack merit has moved that company into bankruptcy and to the brink of dissolution. In the case of little Monsoon Multimedia, which admittedly embedded GPL-licensed code in its digital video software but did not open its software to the community, a suit threatens the company's very survival.

Legal action does not help the cause of open source software, and legal cases such as the ones discussed above increase the costs and risks of creating software. Many large organizations already have built license legal review into their development processes. That's a huge expense...and more companies may be forced to go down that same road.

To restore some sanity to the field, SD Times would welcome a reduction in the number of open source licenses. It seems everyone releasing code as open source wants to retain some different level of control over its use, but all this does is confuse the issue...and feed the trolls.

We also support the efforts of the Software Freedom Law Center to change the software patent process. We firmly believe individuals and organizations have the right to protect their own ideas and inventions, and to copyright the implementations of those ideas. We also believe that in many cases, patents are being awarded to code that too closely resembles, in form and function, software that's already in use today.

The peer-to-patent initiative is but one that should be nurtured. There simply are too many people working at the U.S. Patent Office without the technical knowledge to be able to locate prior implementations of the same idea, or to even draw distinctions between them.

There are other steps organizations can take to reduce liability: Get a copyright assignment with each piece of open source code and perform due diligence about the submitter of the code. That said, sadly, the best way to avoid the legal ramifications of potentially misusing open source software is to set a policy to not allow it into your organization. It would be a terrible shame if developers made such decisions due to fear of lawsuits.

Thanks for the Libraries

It's years later than we would have liked, but we're glad that Microsoft has released the source code of its .NET Framework libraries, as well as their debugging symbols, for developers to view, study and understand.

We can understand, and respect, Microsoft's decision to release those libraries under its Shared Source Initiative license terms. It's one thing to allow people to see the blueprints for your libraries, so that they can better understand how the libraries work. It's quite another to give people the right to redistribute your source code—and to modify that source code, or incorporate parts of it into other products or distribute modified versions. That, Microsoft hasn't done: The libraries aren't open source software. In this case, Microsoft has struck an appropriate balance.

Now, if only it had done its job quicker; developers needed that source code years ago. Still, better late than never. ■

LETTERS TO THE EDITOR

What's It Worth to You?

In Alan Zeichick's "Take" ["What's More Valuable: Data or Source Code?" News on Thursday, Sept. 13], Ashok Reddy of IBM's Rational organization is speaking from the perspective of a firm whose business is software licenses. If the source code is disclosed, the intellectual property is subject to copying, compromise, and in the worst case, re-engineering, so that a duplicate function that does not violate copyright can be manufactured by a competing software company.

In IBM's case, billions of dollars have been invested in algorithms for software products that could become worthless were those proprietary algorithms ported to open source platforms.

From the point of view of a company that uses, rather than produces, software, source code itself has almost no future value whatsoever. Any costs incurred in procuring and customizing application code are sunken costs, rather than an investment. Over time, source code value to the user decreases as improvements and enhancements are developed in newer versions not covered by existing licenses. The user pays and pays and pays, for usage rights, for maintenance and repair, and for upgrade and replacement.

In terms of value, the entries are all negative—money out, not money in. The function the software performs may be critical to the business, but the software itself is just tooling.

So, if your business is selling code, code is what you have to protect, but if your business is using code to manipulate the data of your enterprise, it is your enterprise data you need to protect. Customer information of value to the firm is not simply identity, but also per-

sonality and buying pattern.

It does a competitor little good to know you are selling to Joe Blow, without knowing what you are selling him, how often, at what price, under what terms. Competitive supplier information is also not about identity, but about material specifications, quantities and discounts. The bottom line is that businesses need to protect electronic information systems from compromise of competitive data, and what the business is and how it is done defines what is competitive—algorithms, configurations, correlated facts or a combination thereof. The dichotomy of source code vs. data is an oversimplification.

David P. Vernon

As with most things, there are usually multiple ways of determining relative value. Using the method in your article that compares the consequences of loss/theft (source code vs. data) is valid and clearly—in my mind—makes customer data more valuable. Another way of comparing value is by taking an opposite view and measuring potential return (for the owner). Probably not as clear a choice.

Tony J. Williams

Quest Diagnostics

WHAT DO YOU THINK?

SD Times welcomes feedback. Letters should include the writer's name, company affiliation and contact information. Letters become the property of BZ Media and may be edited for space and style. Send your thoughts to feedback@bzmedia.com.

Mobile Enterprise Apps Still Elude Most

DATA WATCH

New research from Aberdeen Group indicates that, for all of the talk of mobilizing enterprise applications, not even 1 in 5 of those surveyed had access to these tools via mobile devices ranging from smartphone to ultra-mobile PC. According to "Two Worlds Converge: Enterprise Applications Meet the Desktop," enterprise resource planning and customer relationship management/sales-force automation tools are the most likely to allow access, while less than 1 in 10 respondents can use business intelligence or corporate performance management software from these devices.

ERP, CRM the Most Frequently Mobilized Apps



Supreme Makeover: Software Patent Edition

Patent law is unique in that there is a specialty appellate court designed to hear all appeals. The resultant uniformity in patent law across the country, and the unique challenges around molding a body of law based on technology and "invention," have historically meant that the U.S. Supreme Court rarely rules on patent cases. However, the Supreme Court recently issued four rulings that affect the fundamental tenets of patent law, thus presenting an anomaly to what we've seen in the past and perhaps indicating a harbinger of things to come.

EBAY V. MERCEXCHANGE

U.S. law authorizes the granting of an injunction (a court order prohibiting infringing activity) to a prevailing patent plaintiff. Given the fact that a patent is a property right and a right to exclude others from practicing the invention, when is it appropriate to grant a prevailing patent plaintiff an injunction?

MercExchange sued eBay on a patent relating to the auctioning of items on the Internet. There was a finding that both the patent was valid and that eBay infringed. There was no real dispute that to grant an injunction, the plaintiff must demonstrate that it has suffered an irreparable injury, that monetary damages are inadequate, that the balance of hardships favors the plaintiff, and that the public interest is served.

The lower court said this was a non-commercializing patent owner, and therefore the four-part equity test should be weighed against it. Conversely, the appeals court said that in a patent case, the test should be weighed in favor of the plaintiff. The Supreme Court issued a conflicting "unanimous decision." Three different opinions were issued stating, first, that "categorical rules" used by the lower courts were inappropriate; second, because a patent is a right to exclude and an infringer could be using the patent, two of the factors may automatically be implicated in favor of the patentee (similar to the appeals court test); and third, when one is dealing with a noncommercializing patent owner, two of the factors are implicated against it.

This third opinion specifically denounced certain types of plaintiffs who simply buy patents to license and not to commercialize. It went even further and stated that business method patents are inherently vague and have suspect validity, and therefore their presence should affect the injunction calculus.

While we know the test for an injunction, we have conflicting and confusing guidance on what to do with a noncommercializing patent owner. Moreover, we have a statement that "business methods patents" (does that include software?) are

vague and have suspect validity, even though the validity of the patent in question had already been adjudicated. If your company is involved in litigation, advocacy is available characterizing both the plaintiff and the subject matter of the patent.

MEDIMMUNE V. GENENTECH

According to the U.S. Constitution, there must be an actual controversy between two parties for the court to have jurisdiction to render a ruling. Courts cannot rule on hypothetical questions.

MedImmune had a license for a patent, and it continued to pay the license fee while suing for a declaratory of both noninfringement and of its contract rights under the license because it felt it did not infringe. Had MedImmune breached the license and then sued, it is clear that there would have been a controversy, but MedImmune would have been subject to a breach of contract claim, the threat of an injunction, treble damages and perhaps unfair licensing terms. But, by paying the royalty, is there a case or controversy? The Supreme Court stated that with respect to government actions, one does not have to actually commit a crime to challenge the action—private coercion is equivalent. A plaintiff need not "bet the farm" before it can seek a declaration of its legally contested rights, and therefore, the court had jurisdiction to hear this case.

AT&T V. MICROSOFT

In general, infringement of a U.S. patent is limited to acts committed in the United States. An exception defines an act of infringement when components of a patented invention are "supplied" outside of the United States and when combined, that "combination" would infringe. How does this apply to software?

In AT&T, the patent claim was for an apparatus capable of certain signal processing. Microsoft shipped a single golden disc that contained Windows overseas, that golden disc was copied, and then those copies were loaded onto a computer. The Supreme Court went through hyper-technical analysis to determine what may infringe. A computer alone would not infringe because there is no relevant signal processing. The golden disc that was shipped overseas would not infringe because it must first be installed into a computer to do anything. Windows code in the abstract could not infringe because the statute requires that the components be "combinable" and abstract code would not suffice. So here, the only thing that was "supplied" overseas was the golden disc, and that disc was never "combined" to form an apparatus that infringes. Therefore, Microsoft did not infringe.

In light of AT&T, you should attempt to get patents overseas, make sure you have method claims, and if you want to avoid infringing a software patent, the Supreme Court has articulated a set of instructions on how to do so.

KSR V. TELEFLEX

Patents are granted only for inventions that are new to the world and not obvious in light of prior teachings (nonobviousness). When a claimed invention is not explicitly found in a single prior art reference, what is the appropriate test for combining multiple references? If a college-level textbook describes various methods for gathering, indexing and searching data, has that textbook now rendered obvious, and therefore unpatentable, all search engines?

In KSR, the patent claim related to the combination of an adjustable pedal sensor and an electronic throttle control on a single support. No single piece of prior art showed all of these elements in a single housing. The Supreme Court dictated the use of an "expansive and flexible" approach in combining prior teachings to determine nonobviousness and suggested that the test should be whether there is an apparent reason to combine the known elements in the fashion claimed to produce the patent at issue.

With that test in mind, and the expansive and flexible policy, the Supreme Court enumerated a long list of factors to consider when analyzing obviousness, including design incentives, market forces and interrelated teachings of patents. Certain guidelines were mentioned, such as a patent for a combination of old elements with no changes in their respective functions is obvious, a known problem may produce a known solution, etc.

Consequently, one may consider filing less often or for fewer new features because it is harder to get a patent. In litigation and technology transfer transactions, consider performing market research to see if there are marketplace motivators that may affect the obviousness of certain patents.

In summary, the test for an injunction in a patent case is the four-part equity test, and special advocacy is available for certain plaintiffs and certain types of patents. Suits requesting a declaration of one's legal rights are easier to commence. Software patents are slightly weaker, and it is even more desirable to file such patents overseas. The requirements for nonobviousness are more stringent and more subjective. Overall, it is easier to get involved in a patent litigation and more advocacy is available. ■

Steve Rubin, counsel at WolfBlock, leads a law practice devoted almost exclusively to patent litigation, procurement, acquisition and analysis.

Steve Rubin



Guest View

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Editorial

Editor-in-Chief

David Rubinstein
+1-631-421-4158 x105
drubinstein@bzmedia.com

Managing Editor

Patricia Sarica
psarica@bzmedia.com

Senior Editors

P.J. Connolly
pjconnolly@bzmedia.com

Jennifer deJong
jdejong@bzmedia.com

Alex Handy
ahandy@bzmedia.com

Associate Editor

David Worthington
dworthington@bzmedia.com

Assistant Editor

Jeff Feinman
jfeinman@bzmedia.com

Columnists

Andrew Binstock
David S. Linthicum
Larry O'Brien

Contributing Writers

Mary Jo Foley
Geoff Koch
Susan Messenheimer
Lisa L. Morgan
Carol Weismann

Editorial Director

Alan Zeichick
+1-650-359-4763
alan@bzmedia.com

Art & Production

Art Director

Mara Leonardi

Art/Production Assistant

Erin Broadhurst

Sales & Marketing

Publisher

Ted Bahr
+1-631-421-4158 x101
ted@bzmedia.com

Associate Publisher

David Lyman
+1-978-465-2351
dlyman@bzmedia.com

Southwest U.S./Asia

Robin Nakamura
+1-408-445-8154
rnakamura@bzmedia.com

Advertising Traffic

Phyllis Oakes
+1-631-421-4158 x115
poakes@bzmedia.com

Northwest U.S./Canada

Paula F. Miller
+1-925-831-3803
pmliller@bzmedia.com

Director of Marketing

Marilyn Daly
+1-631-421-4158 x118
mdaly@bzmedia.com

Southeast U.S./Eastern Canada

Jonathan Sawyer
+1-603-924-4489
jsawyer@bzmedia.com

List Services

Lisa Fiske
+1-631-479-2977
lfiske@bzmedia.com

Middle Atlantic/Midwest

Daniel Gaiman
+1-631-421-4158 x114
dgaiman@bzmedia.com

Reprints

Lisa Abelson
+1-516-379-7097
labelson@bzmedia.com

New England/Europe

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Accounting

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Reader Service

Director of Circulation

Agnes Vanek
+1-631-443-4158
avanek@bzmedia.com

Customer Service/Subscriptions

+1-847-763-9692
sdtimes@halldata.com

BZ Media

President

Ted Bahr

Executive Vice President

Alan Zeichick

BZ Media LLC

7 High Street, Suite 407
Huntington, NY 11743
+1-631-421-4158
fax +1-631-421-4130
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The Headless Hello

Hello, World” seems harmless, but the traditional first program is not just misleading—it’s dangerous, I think. The misleading part is easy to understand: Languages with even the slightest structural requirement are disadvantaged compared with those that require but a single line to output a string. This is probably the source of a common, and silly, library design decision—the progressive shortening of the “print” function. That function is reduced to “p” in Ruby. (“You mean we can save four keystrokes every time we output to the console? That’s it! Rewrite the payroll system!”)

An evergreen topic in blog posts and letters to the editor is the improved “Hello, World” that demonstrates the concerns of modern languages—the object-oriented “Hello, World,” the unit-tested “Hello, World,” etc. Each of these, though, perpetuates an assumption of which I’ve become skeptical. Is it necessary for a programming language to support a user interface? Printing to the console requires, well, a console—a character-oriented output stream. Symmetry, in turn, suggests a

character-oriented input stream. Yet, of all the common outputs, the console is the least commonly used in serious programs and stream-oriented input is even less common.

Whether inserted into hierarchical documents as with HTML or XML, placed on a two-dimensional surface as with GUIs, or streamed but multitargeted as with loggers, output modes are complex. Input modes are even more complex, with mice, keyboards, timers, network events, etc., ad infinitum. Trying to outfox these modes leads to all sorts of subtle language issues, such as the way events are modeled in languages such as C# as in-process function calls (and, in the normal case when developing GUIs, in the sensitive main-window thread). On the other hand, a Web request will almost certainly be in its own thread.

Developers, in turn, have to adjust their thinking and development based on the interface model. This complexity might, I think, be alleviated by the

creation of “headless” programming languages.

By headless, I don’t mean that the languages would not have an input-output model, but rather that they would embody components of a higher-level pattern, such as Model-View-Controller.

This idea came to me a few years ago, when I implemented a domain-specific language to implement timers. All timers written in “Egg” were globally registered, so that ideas such as “When clock X raises an alarm, toggle the timing of clocks Y and Z” could be expressed. Clocks were visualized by desktop widgets that could be skinned arbitrarily, but such visualizers were not universal, since many clocks were used solely as event generators.

Although I was proud of that system, I didn’t think about it again until recently when I was working on a client’s Web-based system that printed debug and error messages to the console. (Not surprisingly, the Web server was Tomcat; those who use IIS are

unlikely to fall into this trap.) If you’ve ever worked with such a system, you know that the problem is that the console is a shared resource, and when you start trying to use the console traces to debug simultaneous requests, things go to pot (the solution being the conversion of console prints to logger outputs). Here was the exact same programmer intention (“Output debug info”) foiled by the output mode. One solution, albeit way outside the scope for which I was hired, would be an approach similar to what I had done with my Egg timer language.

At first, I thought of the idea of a headless programming language as radical, but then it occurred to me that we’ve embraced an equally radical approach to data storage. First with SQL and even more so with LINQ, developers reap the rewards of sophisticated long-term persistence without dealing with the complexities. In business software, a roll-your-own approach is rarely appropriate (although not unheard of). Could it be that we would get similar gains from an abstraction of user-interface inputs and outputs? ■

Larry O’Brien is a technology consultant, analyst and writer. Read his blog at www.knowing.net.

Windows & .NET Watch



Larry O'Brien

When SOAs Fall Down

It’s just one of those things. Technical projects fail, and SOA is no exception. So, how do these failures occur? Like they always do: as a result of poor planning, lack of understanding or the inability to execute—and that’s the short list.

Truth be told, SOAs are not that difficult to define, design and build. It’s just an architecture leveraging a bunch of technology that any good technologist can get to work together. However, getting the architecture in an optimal and functional state that best provides value to the business seems to be the difficult objective to achieve.

In order to get SOA right, you must carefully consider the business drivers and your own problem domain (in detail), and learn how to determine the problem patterns so you can thus determine the solution. Seems simple, but many enterprises get this wrong and then declare “SOA was a failure,” when in reality the people failed and not the technology or the approach. There is a huge difference.

There are three major reasons SOA projects, or the first steps toward SOA, fail these days: lack of understanding, lack of planning and lack of follow-through.

Lack of understanding is the core issue here. Developers and architects do not take the time to understand the essence of SOA, including what it is,

how to do it properly, and how to grow it into the enterprise architecture longer term. While some take the time to learn, most empowered with the project budget drive forward with very little perception as to how a SOA will meet the needs of business. Indeed, most of these guys “manage by magazine,” making critical decisions based upon popular “technology” culture.

For instance, I’m always taken aback by the number of project leaders who jump out and pick some SOA technology before they even understand their own issues. A typical question would be, “Which ESB?” when the correct question is, “Why an ESB?” Many jump on some technological bandwagon only to find the technology they selected was perfect for some enterprises, but not theirs. Thus, they have to run around at the last minute and look for new technology, or worse, just press forward with the wrong technology, which is sure to kill the SOA.

In any event, the trick to creating the right SOA for your enterprise is really no trick at all. Understand your business issues, determine the ROI, create a semantic-, service- and process-level understanding of your domain, design your services, create

your governance model, and then, and only then, pick the technologies that will work for you. Typically, the result will be a bunch of different things purchased from a bunch of different vendors, in order to create an optimal solution.

Lack of planning is really an extension of lack of understanding.

There is no notion that the A in SOA is for architecture, and architecture takes some time and effort to figure out in the context of all of the business demands and drivers.

The reality is that building a good SOA means going through a set of processes so you can understand the core issues within your organization and take formal steps to correct them, all the while improving on IT efficiencies, thus effectiveness. There are several threads in this plan that you need to consider, including:

- The business plan, or how you think SOA will impact your business longer term, including return on investment, and how technology and business can work better together going forward.
- The technology plan, or how you think you should approach the requirements, design and eventually the SOA technology you’ll need. This means defining a solid methodology around

building a SOA for your enterprise, including a semantic-, service- and process-level understanding of your own problem domain before you attempt to toss random technology at the problem.

Lack of follow-through refers to the fact that many who create a SOA don’t take the architecture to its logical conclusion. This means that they stop after completing a tactical project, and don’t take SOA to a level where it’s driving systemic change for the better, including better agility of the architecture and reuse of key IT assets. However, if only a portion of the architecture is SOA-tized, then the value is limited, perhaps nonexistent, considering the larger architectural issues.

SOA is a core change to the way we do enterprise architecture, thus it’s an architectural pattern or approach, and you can’t just stop after you complete your first domain. Indeed, core to this is long-term planning around the architectural changes that need to occur. If you skip that step, your SOA efforts won’t have the strategic advantages you’re looking for.

What strikes me about all the reasons SOAs fall down is the fact that they all relate to practical and logical things. There are no secrets to pulling SOA off, just some upfront work, planning and careful execution and evaluation. ■

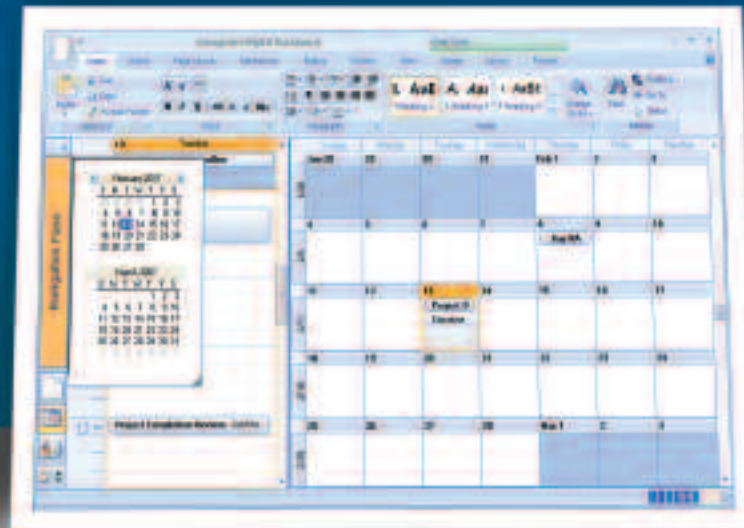
David S. Linthicum is a managing partner at ZapThink. Reach him at david@zapthink.com.

SOA Watch



David S. Linthicum

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Threadbare!

The vendors most concerned with promoting threading on the desktop—that is, chip vendors whose future is closely tied to capitalizing on multiple cores—are slowly but inevitably coming to a disappointing conclusion: Desktop developers are not interested in threading. And no amount of flag waving or promotion is going to persuade them to adopt threads.

Intel has certainly been trying. It recently made its Threading Building Blocks available for free and got O'Reilly & Associates to release an entire volume documenting the software's use. Intel also offers some very good threading tools. And, along with several vendors, the company has pushed the development and distribution of OpenMP, which is probably the simplest way today to implement threading. The results of all this effort have been undetectable, so far. Gamers, multimedia apps and software from ISVs are still the primary, perhaps exclusive, users of threads on the desktop. No one else cares.

Why the resistance? Several reasons. First, a strong case for threading has not been made. Everyone understands how it runs software faster. But if users aren't pushing for greater performance than they're currently getting from desktop

apps, the effort to add threading lacks a compelling driver. Second, threading is hard. It requires a different mindset from the straight-ahead programming most developers know, and it demands new skills, such as special design and debugging prowess. Third, the frameworks and languages lack robust support. Threads are supported in Java and .NET, but primarily as primitive resources. High-level support is notably weak.

Dynamic languages are even further behind. To wit, Python lets only one thread run at a time (except for I/O); this means you can have threads but not running in parallel. Ruby can run threads only within the one VM, which is arguably better but nowhere near good enough. And OpenMP, which might be a solution for some, is limited to C++ or Fortran.

Fourth, development tools lag in thread support. The major IDEs provide basic support, but for anything more, you have to go to third-party products. Alas, there are few of these; the most notable is a trio of products from Intel. While there are one-off offerings elsewhere, there is little tool help overall for the programmer who wants to go parallel.

So, without a compelling driver, good framework or language support, or good tools, why would any developer dive into threading? Put another way, lots has to change before threading on the desktop is adopted widely.

One solution is for Java and .NET frameworks to add solid threading support that makes it easier for developers. For

Integration Watch



Andrew Binstock

example, an equivalent of OpenMP for Java and .NET could be developed. This step would help, but it's not likely to appear anytime soon. Java has been adding concurrency features since Java 5, and the upcoming Java 7 will add more, likely including a thread-aware queue that makes certain types of data transfers between threads far easier. However, these advances are comparatively low level and will help only developers who are already committed to threading.

At a lower level, x86 chip vendors have been doing their best to provide threading support in silicon by expanding the instruction set to execute primitive operations efficiently.

All recent x86 chips, for example, contain a family of instructions that compare two values and swap them if they're dif-

ferent. This seemingly unimportant task actually is a way of updating the value of a variable: See if the new value is different from the current value, and swap it into the variable if it is. The single-instruction aspect is crucial because it enables the update to be atomic. That is, the thread cannot be preempted or otherwise interrupted during the update. And it performs the operation without locking the variable. This instruction, then, is a fast way to update shared variables.

Recent processors also sport the mwait/monitor pair of instructions. These work in tandem to suspend a thread until a variable (or an area of memory) changes value. When an update occurs, the processor wakes up the thread that issued the mwait instruction. By performing this operation in silicon, chips relieve developers from writing heavy constructs to wait for a specific variable to change. These instructions are primarily intended for use by operating systems, rather than applications. However, they portend a likely increase in threading features in future processor generations.

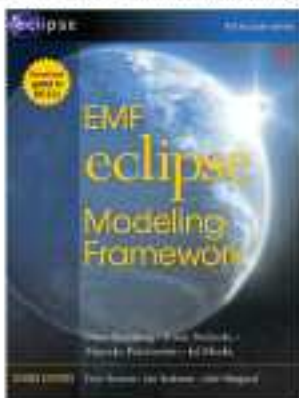
These steps won't be enough. For threads to catch on, customers need better language and framework support, and more tools. Until then, desktop threading will remain a rare practice. ■

Andrew Binstock is the principal analyst at Pacific Data Works. Read his blog at binstock.blogspot.com.



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Performance Anxiety

Thanks to the Web performance measuring tools at Gomez, I learned that SDTimes.com performs quite poorly. I mean, I always knew it was slow to load some images and fill some frames, but now we have hard metrics to show just how poorly it performs—down to the problematic JavaScript code itself.

Web performance was very much on the minds of the attendees at last month's Software Test & Performance Conference. At least, that's the impression I received from observing the overflow turnout for performance testing guru Scott Barber's keynote address.

While performance might not be the most critical aspect of the SDTimes.com Web site, back-end response time certainly is a big deal for the financial sector, where the price of a stock can change in less than a second. If the transaction rate is slow, millions of dollars can be lost in just a few moments.

Joseph Schlam, a principal software engineer in performance testing at Fidelity Investments, observed that if someone puts in an order to buy a stock at, say, \$50 a share, but because of slow software performance the stock reaches \$52 a share before the order is placed, that customer won't trade with Fidelity much longer. "There are tremendous amounts of money tied to [Web application] performance," he said.

So, if it's so important to businesses, Barber asked, why is it an afterthought in so many cases? Why do businesses leave so little time for this kind of testing?

It often comes down to myths, which Barber sought to dispel during his talk. "Good performance testing demands that the people doing it understand every aspect of the system—architecture, technologies, interfaces and con-

figurations, and how users interact with the system," he stated.

To do this, performance testers need more than just access to test managers, or even development managers—they need to communicate regularly with the business stakeholders, Barber posited. "Without access to the people making business decisions about what goes live when and what risks they're willing to take, [performance testers] just don't know what's important, and can't prioritize" areas to work on to gain more performance.

Barber said many organizations have the misguided notion that performance testing is nothing more than load testing. Pile on the load and break the system, and then you can see what to fix, they believe.

"To do performance testing at the conclusion of system or functional testing is like ordering a diagnostic blood test after the patient is dead. What are you going to do if you find a problem?" Barber mused. Most companies, he said, don't take performance testing seriously until they've gotten burned.

Alternatively, companies will outsource performance testing to cut costs. But Barber asked, "I thought we were here to solve problems with good testing. Where did the 'savings' thing come from?" Performance testing must be done in-house, he argued, because consulting without training and mentoring only solves a problem once.

Performance should not only be tested at the end—it should be architected into how the Web application is created, said Jim Pierson, a performance architect at Microsoft's MSN. "Server response time," he said, "is a small component of performance."

For instance, he explained that Java



Industry Watch



David Rubinstein

scripts don't run concurrently; they load serially. But by adding more domains—such as msn.com, javascript.msn.com, stylesheets.msn.com—you can increase throughput, because Internet Explorer opens two ports for each domain.

In the end, for organizations to maximize Web performance, Barber said they must admit performance testing is not simple. They must focus on the satisfaction of the end user. And they must give performance testers access to the information, stakeholders and users necessary to ensure the application is optimized for performance and functionality.

"There's some reason an executive is risking his money to fund [the site and its applications]," Barber said. "If we don't know what that is, we can't test for it."

That's as plain as can be. ■

David Rubinstein is editor-in-chief of SD Times.

BUSINESS BRIEFS

Hewlett-Packard and **Cenzic** have signed a settlement and cross-license agreement for the patents HP and Cenzic are currently asserting against one another. This agreement settles the outstanding lawsuits and counterclaims filed by **SPI Dynamics**—now owned by HP—and Cenzic in federal court. These suits, which deal with the use of fault injection in Web application security scanners, will be immediately dismissed . . . **Polarion Software**, creator of an application life-cycle platform based on Subversion, and **Subversion Corp.** announced that Polarion will donate the subversion.com domain name that it owns to Subversion Corp., a nonprofit stewardship organization created recently to further the development and adoption of the Subversion version control system. Polarion originally registered the domain name in 2004, when it decided that Subversion was becoming the de facto successor to CVS, and was one of the first companies to develop both open source and commercial products designed around the Subversion system . . . **SAP** has

acquired **YASU Technologies**, a provider of business rules management systems. It will embed YASU's solutions into its NetWeaver platform to provide a business rules infrastructure. SAP claims that given the ability to centrally manage and monitor the way that business rules are maintained throughout an organization, its customers will be able to comply more easily with regulatory policies and manage their business performance more effectively. SAP enhances its BPM offerings and provides customers with the agility to embed new business rules in business processes . . . **Symphony Services**, a product engineering outsourcing services provider, announced a definitive agreement to acquire Optimal Engineering Partners, a product engineering services company focusing on embedded and real-time systems and application development. Optimal's workforce will expand Symphony's engineering team and strengthen its embedded and real-time systems application development capabilities in several key domains. ■

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EclipseWorld Reston, Va. BZ MEDIA www.eclipseworld.net	Nov. 6-8
SC07 Reno, Nev. IEEE sc07.supercomputing.org	Nov. 10-16
Oracle OpenWorld San Francisco ORACLE www.oracle.com/openworld/2007/index.html	Nov. 11-15
ApacheCon Atlanta APACHE SOFTWARE FOUNDATION www.us.apachecon.com	Nov. 12-16
XML 2007 Boston IDEALLIANCE 2007.xmlconference.org	Dec. 3-5
Agile Development Practices Conference Orlando, Fla. SOFTWARE QUALITY ENGINEERING www.sqe.com/agiledevpractices	Dec. 3-6
Macworld Conference & Expo San Francisco IDG WORLD EXPO www.macworldexpo.com	Jan. 14-18
Southern California Linux Expo Los Angeles SCALE INC. www.socallinuxexpo.org	Feb. 8-10
Game Developers Conference San Francisco CMP MEDIA www.gdconf.com	Feb. 18-22
FutureTest 2008 New York BZ MEDIA www.futuretest.net	Feb. 26-27
Emerging Technology Conference San Diego O'REILLY MEDIA conferences.oreillynet.com/etech	March 3-6
BrainShare Salt Lake City NOVELL www.novell.com/brainshare	March 16-21
EclipseCon 2008 Santa Clara ECLIPSE FOUNDATION www.eclipsecon.org/2008	March 17-21
Software Test & Performance Conference San Mateo, Calif. BZ MEDIA www.stpcon.com	April 15-17

For a more complete calendar of U.S. software development events, see www.bzmedia.com/calendar. Information is subject to change. Send news about upcoming events to events@bzmedia.com.

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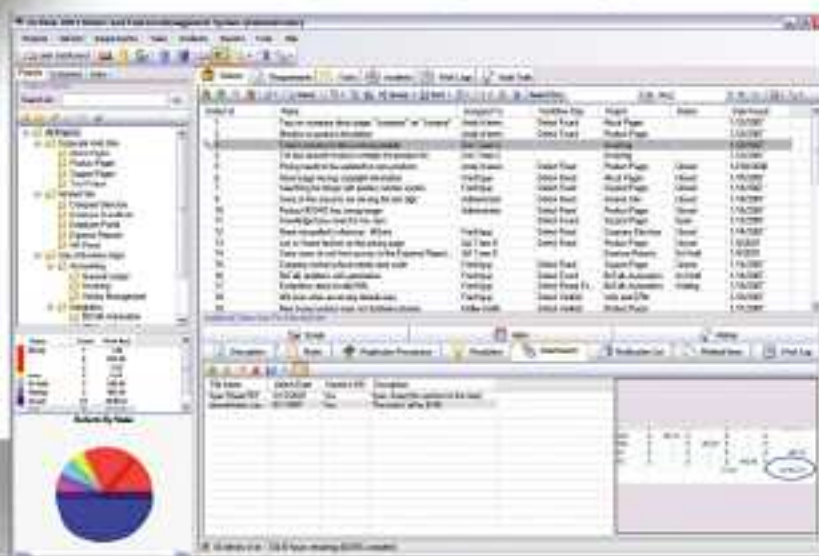
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